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ABSTRACT

The nature of this conference, the product of a year's work by an interdisciplinary team, was that of a giant critique, where the subject of discussion was a high-density, compact new city. Participants in the conference gave their comments and questions on the New Communities Project material that had been presented in both verbal and graphic form. The major areas of discussion were concerned with--(1) the environmental implications of compact design, (2) economic efficiency, and (3) whether the compact design can be implemented. (TC)

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12th URBAN DESIGN CONFERENCE

New Communities: One Alternative

Proceedings

June 7 and 8, 1968

FOREWORD

The 12th Urban Design Conference was held on June 7 and 8, 1968, in the atmosphere of grief surrounding the assassination of Senator Robert F. Kennedy. After considering the suitability of going on with plans for the Conference, it was decided by the Dean and Faculty that, given its nature and subject, cancellation would be inappropriate.

The nature of the Conference was that of a giant critique. The subject was a high-density, compact new city, the product of a year's work by an interdisciplinary team headed by Dean Jose Luis Sert and Professor William W. Nash. George J. Pillorge (M. Arch./UD '61, MCP '63) and Theodore Monacelli (M. Arch./UD '64) returned to the Graduate School of Design during the academic year, 1967-68, to act as Director and Assistant Director of the New Communities Project (NCP), respectively. The Project's personnel included faculty and students from other graduate schools at Harvard, members of faculties of other universities, and non-academic advisors as well as students and faculty of the Graduate School of Design. A grant from the Department of Housing and Urban Development provided support.

People who registered for the Conference were urged to come prepared to question and comment upon the NCP material presented in verbal and graphic form on the first afternoon. A Summary Report including much of this material is being distributed as a companion volume to these Proceedings. Panels were carefully organized to be interdisciplinary in character.

Given the circumstances it was inevitable that several people scheduled to appear, would not be able to come. Among those missing from the panels were Charles Haar, Assistant Secretary for Metropolitan Development, Department of Housing and Urban Development; Professor Charles V. Hamilton, Department of Political Science, Roosevelt University; Professor Adam Yarmolinsky, Harvard Law School. Mr. William J. Poorvu of the Harvard business School substituted for Professor Yarmolinsky on the panel on Implementation. Missing also was Moderator Daniel Patrick Moynihan of the Joint Center for Urban Studies whose place was taken by Dean William Wheaton of the College of Environmental Design of the University of California at Berkeley. Dean Wheaton consented to act as Moderator though asked to do so at the very last moment. We owe him a debt of thanks.

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I. INTRODUCTION

DEAN JOSE LUIS SERT

Ladies and gentlemen, friends: President Pusey has asked me to tell you that he is sorry he cannot be here today to welcome you to this Twelfth Urban Design Conference. In his name and that of the faculty and students of the Graduate School of Design, I welcome you and hope you will enjoy your stay here.

In view of the tragic events of these last days, we were on the point of cancelling this conference but we think that, as this is a working conference concerned with the problems of our cities, this is a way of paying homage to the memory of Senator Robert Kennedy who was so concerned with seeking a newer and better world. His programs were all for improving the conditions of living in cities, and in the country in general. So I would like to formally dedicate this conference to his memory and I will ask all of you now to stand for one moment of silence.

Today and tomorrow we will discuss new communities. This is a timely subject, partly because of the great population explosion and the uncontrollable growth of cities and the sprawl of our suburbs and also greatly because of the living conditions in our cities, especially as they affect the lower income groups. The new community we are going to discuss this afternoon will be mainly concerned with providing new and better housing and services of all kinds for the low income groups.

We will present to this conference today the study for a new prototype community developed in the last eight months by a group of students and in-

structors from different departments in the Graduate School of Design with the help of outside consultants, some from other Harvard graduate schools. This is but a study, and the work has been made possible with a grant from the Department of Housing and Urban Development.

We thought that before we initiated discussion on this particular subject, which will be our concern for the rest of the Conference, we would like to have a general talk on urban problems of this country as they relate to economic and political conditions. So, for the keynote address of this morning, we are lucky to have with us Professor John Kenneth Galbraith who is too well known for me to try to make any formal introduction. I will, therefore, only say a few things about him.

Ken Galbraith is interested in everything that is alive and controversial, especially with those things that are the expression of our times. He is interested in people, objects, buildings, and reacts to them, violently sometimes. He is---thank God---biased and opinionated. He has sharp comments to make on many things, and he has a healthy sense of humor.

I would like to ask you to welcome Professor Galbraith.

II. KEYNOTE ADDRESS

JOHN KENNETH GALBRAITH*

Dean Sert, my friends, may I join in the general welcome I trust you are receiving in this otherwise rather inhospitable community. I share in the hopes that you will have a very useful and valuable conference.

I endorse Dean Sert's decision and the decision of the leaders to proceed with the conference. The ideas and suggestions that I am going to offer this morning are ones that I have been developing over the last several years. I have discussed them on one or two occasions with Robert Kennedy, not always in perfect agreement. I can't think of anything that would have appalled me more than that effort of this kind be suspended because of this terrible misfortune. It is far more important that you show a sense of responsibility toward things for which Robert Kennedy worked, particularly in the mood of making things happen.

This leads me to suggest one thing before I enter into my somewhat informal comments of the morning. There has always been a good deal of discussion about the Kennedy mystique; what the Kennedy magic is. I didn't know Robert Kennedy nearly as well as I knew his brother, but I think I have a certain sense of what it was that moved both of those men. It was a disinterest in the forms and in the glamor and indeed in the

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*Because of problems with the public address system, the transcription of Mr. Galbraith's speech was faulty. The following is a reconstruction of the speech as given.

applause which is so often associated with political expression divorced from political action. And both men had an enormous interest in seeing something actually happen.

I remember a conversation in late 1960 or early 1961 with President Kennedy. He said---and I was by no means flattered---"I sometimes think you would rather arouse people than get something done. Well, I am just the opposite. I have no particular pleasure in infuriating people but I have a real desire to see that something eventually gets done." I think this is a very good characterization of the President and a very good characterization of Robert Kennedy.

The mood of both men is something which the public, in an age when conversation very often takes the place of action, in fact normally does, sensed. The Negroes, Puerto Ricans, Mexican Americans knew that the concern of these men was not purely verbal. This is perhaps a moral worth bringing to this conference because it is my impression that there is no field of discussion where conversation more completely replaces the prospect of action than when it has something to do with the problem of the urban community. Perhaps that is a little harsh but it is certainly an area in which an extraordinary number of articulate people have rushed in all directions in recent years. This search for solutions has been in the manner of the President's reaction when he set up the Kerner Commission. The first requirement is that they don't cost any money and don't involve an destruction of the convenient legal arrangements which have been associated with our conventional attitudes toward urban planning and urban administration.

Let me now get back to the comments that I want to make today. These seem to me to put into focus the discussions that you will be having, particularly in regard to the imaginative efforts of Dean Sert and my colleagues to see the new kind of urban community which you will examine when I finish my remarks. These are ideas with which I have been concerned, though not in a terribly professional way, for a long time.

The problems, I think, can be seen if we look at the city in both historical and economic terms. The problem of the modern great city of the West is not at all new; it has been accumulating for a very long while, accentuating itself in one form or another since the beginning of the Industrial Revolution. Prior to the Industrial Revolution no one really talked about cities. This is rather recent. Cities then were few in number, and no one doubted that they were the centers of civilization, that they represented something like the ultimate in human objectives as far as living was concerned.

Before the Industrial Revolution there had been many different kinds of cities---city states, the imperial capitals of Persepolis, Rome and Constantinople, the Hansa towns, the emerging national capitals of Europe. But these cities had a common characteristic. Prior to 1776 they were invariably a projection of the personality and power of those who governed them---of a ruling prince or dynasty or commercial oligarchy. The city was, in no slight sense, the extension of a household or menage. This is most vividly to be seen in the cities of the Moghuls. When these artistically sensitive and highly peripatetic rulers became dissatisfied with a place of residence, they naturally moved. But when they moved---as when Akbar the Great moved to Fatehpur Sikri or Shah Jahan took up

residence in Delhi---they did not content themselves with building new palaces. As a matter of routine, they created a new city as well. No line divided the royal dwelling from the royal city; all were of the royal household. And so, in lesser measure, it was elsewhere. All of Florence was the city of the Medicis; all of Venice was the city of the Doges; all of St. Petersburg was the resident of Peter the Great. It is these cities, much more than parenthetically, that Americans visit in the course of their annual migration from the wonders of the Twentieth Century to the admittedly far greater glories of the Sixteenth, Seventeenth and Eighteenth Centuries.

This organic conception of the city touched, but barely, the New World. In the Archiv de los Indies in Seville, are plans which the governors of the provinces of New Spain were required to submit of the capital cities they were founding. It was a serious responsibility; the more ambitious governors were obviously concerned to show how great was their imagination and taste. One consequence is that the old centers of cities in South and Central America are often well-conceived and attractive. The rest is hideous. William Penn sent his followers to Pennsylvania equipped not only with a plan for the government of the colony they were to establish but also for the city they were to found. The center of Philadelphia, as redeemed in recent decades, rejoices in the original conception. But mostly our cities belong to a later and less fortunate era.

Since the city of this earlier period was an extension of the personality and the household of the ruler or the dynasty or the ruling clique or community, it was also subject to the artistic and aesthetic standards of that central administration. There was no question, therefore, as to which would be given priority. If there was a decision to be made between having something that was efficient or something that was beautiful, it was perfectly possible in this context to give full priority to what was beautiful. There was an organic commitment to the city, an organic commitment to aesthetic priority, if this reflected the taste of the ruler.

With the Industrial Revolution the conception of the city was liberalized and decentralized. This was especially so of the Anglo-Saxon world---of the industrial cities of Britain, the United States and the older countries of the British Commonwealth. Here the city ceased to be a reflection of individual, dynastic or collective personality; it became both the instrument, and the result, of industrial development. The question that came to be asked about the city in the Nineteenth Century was, Is it a favorable environment for industry? Is it an efficient place to produce goods? Is it an efficient place to conduct business? Is it the kind of city that attracts industry; the kind of city that attracts craftsmen; the kind of city that attracts businessmen?

And not only did the mood in which the city was regarded in the Nineteenth Century become overwhelmingly concerned with economic efficiency. A liberalization of land use came about which would have struck, for example, Louis XIV, as most extraordinary. Louis assumed in a very straightforward fashion that all real estate belonged to him because of conquest and never recognized anyone else's title.

The notion of liberalized, relatively uncontrolled land use was a manifestation of the new attitudes toward efficiency.Land use was no longer subordinate, even imperfectly, to overall design.

It was either what served economic performance or what resulted from economic development. It was not what best served amenity or beauty but what best served economic efficiency.

This was a test that was more or less unconsciously applied. Private ownership of space was assumed; that the owner would use his land so as to obtain the highest return was assumed; that maximum return was a measure of desirable use was taken for granted. A heavy burden of proof soon came to lie on any restraint on this process. In many communities such proof was not even reliably established when the most efficient use was offensive or damaging to neighbors or the rest of the community. However, if it could be shown that there was economic advantage in control of space---in zoning a residential area against industrial or commercial use, in establishing minimum acreage or expenditures for residential housing, in keeping out the Jews or Negroes, in setting aside a specialized area for prostitution, gambling or other reasonably sedentary vice---this was deemed permissible. The test of permissible interference with private land use, it must be stressed again, was almost always economic. It was in accordance with such a social conception that the city developed in the last century.

It was consistent with this view of the city that any extraction from the business community or any extraction levied against those in the city was looked upon askance. The primary purpose of the city was to produce the maximum of distributable income. Therefore, any increase in taxes was invariably a misfortune, no matter what the purpose. If the taxes could be kept down, this was a measure of what was good---no matter what might be sacrificed. In terms of the larger conception of the economic city, this was clearly the way to do it.

In some degree the city government itself became a source of profit. This society measured worth by income and wealth, and it was not censorious as to how these were acquired. That it applied similar standards to the city government was hardly surprising. In making a survey of the American city at the beginning of the century I found that the city administration was almost uniformly corrupt. The purpose of the city was to make money. It would have been bizarre and unnatural if the city administration had been scrupulously resistant to the same measure.

There is one other feature of the Nineteenth Century city that I must mention. It seems to me to bring us to the conception of the community that Dean Sert says we will be talking about. There was one affirmative feature to the city. While City Hall was weak, there was power in what was the natural government of the city, that associated with the industrial community. This was perhaps not true of the very greatest cities in the Nineteenth Century, New York or London, but in the commonplace industrial cities---Pittsburgh, Chicago, Kansas City and so forth---there was a focus of power in the great industrial establishment. The center of Pittsburgh at the beginning of the nineties was not at City Hall; it was at the steel mills. The mayor was a man of minor relevance whose name is lost to history. History still celebrates the names of Andrew Carnegie and Henry Clay Frick. Similarly in Chicago of the Swifts and Armours; in Detroit of Henry Ford; in Wilmington of the dePonts.

So there was a focus of power associated with the dominant industrial enterprise. There was also in this city a very plausible instrument for protest. It was used, naturally enough, not

against the community or its government, for these had only nominal authority. It was used against the real seat of power, the economic institutions. The instrument was, of course, the strike. Its use, especially in the early days of the economic city, was regularly accompanied by violence. And the reaction of the respectable was not more sympathetic than to the modern ghetto riot. Rather it was one of outrage, and this was especially strong when those engaged in protest asked not for redress of grievance but for power for themselves---for dispensing with the existing social framework and its replacement with socialism or a workers' state. But the fact that this instrument of protest was available is all that need detain us here. That it is not available to the disadvantaged of the modern city does much to explain the headlines of these last years.

The industrial city was always ugly and often violent, but it was not unrelated to its age and function. The modern metropolis in contrast is not adapted to its time and task. The adaptation is inhibited by institutions and even more by attitudes inherited from its economic past. They go far to immobilize it. I think we see the problems of the modern city much more clearly when we see them as the result of a disintegration of the Nineteenth and early Twentieth Century form of our cities. The disintegration has been of two sorts. First, there has been a radical change in the character of the economy and the character of the underlying social structure, so that the Nineteenth Century city is not able to perform even the limited function it had at that time. Second, we are no longer satisfied, for very good reason, with the city as it was in the early Nineteenth and Twentieth Centuries.

On the first point, there is no longer any central power structure in the modern industrial city. In the Nineteenth and early Twentieth Centuries, the rise of the great industries identified economic power and a large measure of political power with the dominant industrial community. The further growth in the last few years, certainly in the last quarter century has, however, brought a distribution of power in the industrial city. It is difficult or impossible for anyone going to Pittsburgh, Chicago or Kansas City, to say "Here are the people who have the controlling economic power in this community." The phrases "power brokers," "power elite" and so on, are still used, but they have far less practical content than they had at the beginning of the Nineteenth Century and even the beginning of the Twentieth Century.

Additionally, there has been a change in the structure of the industrial enterprise itself. When Carnegie was a dominant figure in Pittsburgh, he not only controlled the Carnegie enterprises, but owned them; and when Morgan took over, he not only owned, he controlled and managed them. He didn't actually manage them himself, but he did it through his faithful agent, Robert Gary, for whom Gary, Indiana is named.

This has nothing to do with the general argument, but I can never mention that name without being reminded of a marvelous line of Stolberg's in his biography of Gary. Gary was a manager. He ran the works and he ran the city; and Stolberg says in his biography of Gary the great line, "He never visited there; he never saw a blast furnace until after he was dead."

But the managers have now replaced the entrepreneurs; and while they, the entrepreneurs, had

power, the power of commitment and resources, the power of action, the managers do not.

There has also been an extraordinary change in the focus and character of the people who come into the industrial city. At the end of the Nineteenth Century, when people came to Pittsburgh or Chicago, they came there with the specific objective of a particular type of industrial employment. The Slavs came into Pittsburgh to work in the steel mills, and similarly Czechs came into Chicago to work in the steel mills, to work in the packing plants and so forth. Now people come to the cities because of the generalized knowledge that the city, dismal as it may be, is still a more compassionate place than the place from which they come. They are likely to come in response to welfare and better possibilities of education or income. It is a search for betterment rather than a specific search for employment in a particular area.

This means quite logically that when this is not found or when people in the central core cities become dissatisfied with the improvement that they experienced between there and the Appalachian plateau, or there and Northern Mississippi, their grievance no longer runs against the industrial effort, no longer runs against the employer; it runs largely against the community as a whole. The anger isn't so much focussed on City Hall, because that is still weak. It is expressed in the less focussed, less organized violence which we have seen in the last summer.

We are seeing the decline of an older power group before we see the rise of any other focus of power sufficiently strong that people feel they can go there for redress. So we have as a result of the decline of the industrial city and the fact that nothing has been put in its place, an unfocussed resentment which lacks redress and gives us a much more serious situation than we had at the beginning of the century.

At the same time, I don't need to remind anybody in this hall that the industrial city, the city that was the arena for the free enterprise system, was a disagreeable place. The industry at that time required mass workers who were given a minimum of services. Housing and schools were bad. Life in the factories was dangerous. Any notion of a common responsibility was lacking.

People are no longer satisfied with this. The very fact that in the latter part of this century the rich began escaping to the suburbs from this nauseous environment and creating small enclaves with a more agreeable pattern of existence is a symptom of the early failure of the economic city and a symptom also of what the people who couldn't escape would like to have done. Increasingly the people who couldn't escape were those who were kept from doing so by the combined restraints of both race and property.

What does all this imply? It implies, I think, that the economic city, what we have in the absence of historical perspective come to think of as the only form of urban existence, was an aberration. It was an aberration subordinated to very rapid industrial development at a time when people were willing to pay the price in the hideousness and the primitiveness of the communities into which they were mustered. And if this be so, our task is to reestablish and rehabilitate the city in the larger sense of the community, which first of all takes responsibility for people who are resident there and provides a focal point for discontent.

This, I don't need to tell you, means the re-assertion of strong government along with a very strong assertion of public priority, a very strong assertion of the concept of the provision not only of services but also of basic well-being. Our conception of the city must cease to be that of a playing field for the exercise of economic talent and aspiration; it must instead be that of a household with a common and centrally exercised concern for the well-being of all the members. We must rid ourselves of the inhibitions which, however appropriate to the economic city, curb or stifle action designed to solve the problems and meet the needs of the modern urban household.

This brings me to the first of my suggestions. I think we must keep in mind how extremely expensive modern urbanization really is. We are still caught with the mental conception of this as a subtraction from income rather than as a major problem of resource allocation between private and public consumption. The difference is between keeping the house clean and keeping the street clean. The principal we must clearly understand is the subordination of economic to aesthetic priority. And it is at this point that our concept of the economic city has really got into our bloodstream.

There are those who will say this will interfere with economic efficiency. I am quite clear that as long as we ask whether it pays, that we will not be able to recapture even the Fourteenth or Fifteenth or Sixteenth Century city. The merit of the great period of urban design was that the question of economy was subordinate to the question of beauty.

This is a point which I cannot emphasize too strongly. I have suggested to Dean Sert many times that the architectural profession one of these days should have a blacklist of architects who insist that they can work within a functional environment and assure their client that beauty in in the long run pays. Absolute nonsense. It doesn't need to pay. And---so Dean Sert assures me---within a very few years any architect who uses any such expression as that will be blacklisted and forced back to carpentry work.

Those who argue for economic priority will invariably insist that the popular taste is intransigently vulgar. Accordingly, it is arrogant and undemocratic for a minority to try to impose higher standards based on its pretense to better taste. This is special pleading and hideous nonsense to boot. Every aesthetically successful society has relied on its artists as arbiters of taste. Scientists and physicians are expected, subject to suitable safeguards, to impose their standards in matters of public health. Beauty, no more than measles or syphilis, is to be entrusted to the uninstructed instinct.

We should have in mind the likelihood that most design that plays to popular demand, popular taste, will in all probability be quite bad. (I avoid the suggestion that one of the advantages of the Seventeenth and Eighteenth Century city was that of despotism. No one in this day and age can speak against democracy.) There is no doubt that, where art is involved, democracy raises certain difficulties. I was ambassador to India at the time Ed Stone's buildings were going up there, and there was a strong difference of opinion as to his architecture's appropriateness to that particular climate---there is no doubt whatever about its ill-utility. It was part of the building. I am convinced that if I had had just one more congressional delegation a year, we wouldn't have

gotten away with it. The reason that those buildings, which are certainly as exciting as any the United States Government has done anywhere in the world with the exception of Baghdad---the reason they were built, is precisely that they were on the other side of the world from Washington.

When I was in Washington, people used to complain to me how bad the old Federal Triangle building is---heavy, oppressive. But can anyone doubt that it is better than the product of the economic city on the other side of Pennsylvania Avenue? I don't think there can be any comparison. Even a badly composed design is better than none at all.

This means again that economic priority must be sacrificed, that there must be no question about the sacrifice of economic goals. It means in turn that the instrument of economic priority---which is the relatively free use of space---must also be sacrificed for the larger aesthetic priority.

It will be evident that all these factors bring us to the right mood for considering a new community. These aims indeed must start with a new community. The problem of remaking the old communities is without doubt the more important and in some ways the more urgent one, but there will always be compromises there with tradition and with a greal deal of very bad history. There are many monuments in the form of commitments to the history of the economic city. The cutting edge, therefore, must be the kind of community that you will be considering this afternoon. You will, for all practical purposes, have to eliminate the line between the private and the public sectors. The new community takes for granted the full control of the use of land. It envisages the city again as an organic whole. It embraces the most difficult aspect of this problem, the notion of the redress of the economic situation; the presumption that the city will incorporate within itself the means to employment, the means to providing income for the people who are part of it. I have a feeling of excitement as I go over this project in light of my much less professional and much more historical interest in this problem.

Thank you very much.

DEAN SERT. Thank you, Mr. Galbraith. That was very stimulating. Professor Galbraith says he will be glad to answer questions.

FROM THE FLOOR (Walter Isard). I think most of us agree with your hypotheses and statements. Then the question is, given the fact that the political structure is so economically oriented, how do you insert the new community (with the orientation primarily on design) into the given economic structure.

MR. GALBRAITH. This, of course, goes immediately to the hard fact that history and diagnoses are much easier in prescription. There are more historians than there are practicing social reformers, for example, on the Harvard faculty.

One thing, of course, is implicit in what I have said and that is to escape from the inferior role and inferiority complex of the designer, of the artist. This is absolutely an essential. The economic priority that I have been mentioning is not even a question. My notion is that there has been a phenomenal absence of assertion on the part of the community most immediately involved: namely, the designers, architects, artists. I don't understand that.

It seems to me that there are two things involved. One, of course, is money. There has to be a breakthrough on the question of how much this is

going to cost, including the extent of the claims that must be levied on the Federal Government. No notion or nonsense about the state being involved. The problem here is an urban community.

Second is the notion of a much stronger act on the question of economic land use. I have said in the paper from which I was quoting that I think we must face up to the need of a far larger use of urban space in keeping with the goal of the city. Private use of land must be a limited concession and nothing approaching the absolute right that it has become.

FROM THE FLOOR. Can you see any hope in recent attempts at quantifying such things as aesthetic and social values in order to create a balance with the economic considerations? Is this a false goal?

MR. GALBRAITH. I don't think it is. I think it is purely a question of tactics. If you can get some provision into the Housing Authority legislation for an extra subsidized cost for design, by all means go for it. Anytime anybody wants to conspire about constructing something purely brainy, estimates of the economics of the value of good design versus bad design, I will conspire with you.

FROM THE FLOOR. Are you interested in finding new mechanisms for imposing essentially the kind of paternalistic aesthetics that existed in the Eighteenth Century controlling aesthetic environment or in finding new participatory aesthetics, involving people living in communities in forming some set of values which include aesthetic and social values for themselves?

MR. GALBRAITH. I don't really think that art is a democratic phenomenon, and I am not very much concerned with these words "participatory", "democracy", as applied to artistic expression. I think everybody in a good community should have a chance for such expression, but the notion that one must rest the design on this seems to me to be wrong. We trust the problems of public health to doctors, and we trust the problems of economic policy to economists in increasing measure, and my strong conviction is that the natural arbiters of taste are the artists and not the people. If Lorenzo had submitted his plans for Florence to the vote of the people, not many of us would be looking in on it this summer.

FROM THE FLOOR. Do you think of aesthetics as a functional thing at all?

MR. GALBRAITH. No, I don't.

FROM THE FLOOR. You think it is something superimposed on function or completely separate from function?

MR. GALBRAITH. I am extremely backward on this issue. I regard the theory of function as an effort of an artist with a marked inferiority complex to crawl under the blanket of economic priority and explain that they have done so without sacrificing their artistic honesty. I frankly do not believe that art can under all circumstances be divorced from decent ill-utility.

FROM THE FLOOR. I am a bit concerned with your feeling when we get into the problem of planning for a neighborhood or perhaps for a whole section of the city. One of our colleagues in the planning profession has just recently very strenuously, with a finger pointing very strenuously as well, admonished all of us that the new way to plan for urban design for communities is not to

draw up the plan and present it to the people but to draw up a sketch, present it to the people; come back and refine it and present it to the people again.

I may agree with your position about the artist, but some of these planners are very much convinced that what we are doing in the field of urban design is not getting this give-and-take--- Columbia University, the Pittsburgh downtown center, are examples.

MR. GALBRAITH. I don't imagine that that Columbia University gem had anything to do with urban design and probably very little to do with art.

I think we are talking here about different things. I am not averse to political maneuvering or political communication; but to subordinate artistic effort or artistic purposes to popular consent is something else. If that has to be done, it shouldn't be draped, decorated, as an exercise in superior democracy or an exercise in superior art. It is a concession to politics. That's what it is. I want it recognized as such. Political concessions have to be made but one shouldn't fool himself.

DEAN SERT. Thank you very much.

III. EIGHTH GROPIUS LECTURE

SHADRACH WOODS

The Incompatible Butterfly

Perhaps, at the outset, I may be permitted rumination as to why I have been invited here this evening. That which most powerfully bolsters my self-esteem (which I need on the occasion) is that you might be interested to hear my non-academic version of where it's at, today, in our profession of architect-urbanists. So that is what I propose to try to tell you, and I hope that what I have to say, about butterflies and urbanism, will be sufficiently familiar to be recognizable to all here, and sufficiently unpalatable to revolt you, or to incite you to revolt.

My premise is that urbanism as we know it in Europe and North America is a stupendous hoax in global terms. Since all of us here are concerned with urbanism I propose to present you my view of its context in space and time, what I conceive to be its nature, and what I think it can be made to do. This will be, then, in the nature of a declaration of principles, a statement of faith.

Of course, nothing anyone in our little world can say about urbanism could appear to any of us as an original statement, unless it were an extremely foolish one. Everything has been said and is common knowledge, from the Greek and Judeo-Christian attitudes through to the Marxist-Leninists. To get a new view we might turn to another culture, to a foreign philosophy, but it is not very easy to put oneself in the mind of an African or an Indian or a Chinese. (Indeed, for us it is much more normal to imagine the

Chinese, Indians, or Africans as kind of candidate Europeans or North Americans.) I certainly do not intend, nor could I succeed at, such a hazardous venture as trying to illuminate the white man's world from the outside. But from the inside I will try to cast some light on what I think we are about, and I can only do this from the rather shaky platform of my own white European, North American formation (and deformation). So I will proceed to serve up some warmed-over banalities in a tasteless but hopeful composition, which probably has a closer relationship to the cordon sanitaire than to the cordon bleu.

When our predecessors, in the first third of the century, were re-inventing architecture and urbanism, they were also occasionally, and rightly, presenting themselves as being exemplary of social consciousness in their time. Indeed some of them (in Stalin's Russia, for instance), spent a lot of time in jail or even lost their lives in the pursuit of architecture and urbanism as social determinants. However, in most of Europe and all of America, inequity, exploitation, waste and poverty did not too much intrude upon their area of concern, which was usually essentially esthetic, that is, an abstraction of the total scene. It was at this time that the esthetics of social concern were invented; these considerations grazed but did not penetrate (even within the white world) the real problems of social and economic disparity. It was, in a way, like being against war, but only because one found the flags and the uniforms to be somehow overstated.

However, it is not my purpose here to put down these great predecessors, who often made inspiring buildings and certainly made an opening for our profession to establish itself on non-arbitrary bases. The concern that they felt obscurely has now been---and partly through their efforts---discovered to us, and it is neither to our merit nor to their disgrace that we now see more clearly how deep are the roots of the present abominable situation. We are well aware of just how abominable the situation is, although we often feel obliged to pretend not to be. It is a most discouraging report of conscious and unconscious depravity.

In the past, even the recent past, it was possible to consider separately discrete segments or areas of the built world and to ignore the rest. Today such a fragmented approach is no longer conceivable. Our technological achievements have shrunk the world and we must adjust our ethics to the measure of our technologies. What I hope to accomplish here is to situate urbanism, everyone's concern, in its global context. We have become increasingly aware of the extent of our influence for good or bad and our urbanistic attitudes are governed by global social concern. All the men in the world are involved in, and affected by, the allocation and distribution of the world's wealth. The urbanist is one of those who assumes responsibility for directing the use, or misuse, or conservation, of world resources, directly or indirectly, and he is naturally as concerned with the global effects of his local decisions as he is with the efficient and equitable use of these resources.

A linear projection of current data shows the world's population doubling in a little more than a generation, in any case less than 40 years. Should this projection be accurate, and we would be prudent to assume that it will be, then our concern for the use and development of natural resources must be more than doubled. It has been said, in academic circles, that dwindling resources will be replaced by increasing skills, but this has yet to be adequately demonstrated and

in any case it would scarcely constitute a solid logical basis for continuing to waste the planet at an ever-increasing rate. The world of 7 billion may well prove to be a prison of hungry people, where each year a growing number are forced to share a shrinking patrimony. At the scale of the universe the world is an island where injudicious exploitation of natural wealth can irreversibly affect the ecological systems. (See Lamont Cole.)

The present reality, as far as we can seize it, seems to constitute an accusation of our civilization. Barbara Ward estimates that thirty percent of the population is using up eighty percent of the product. The world continues to be raped for the exclusive profit of a minority. Someone in this university produced the remarkable prediction that the United States would consume, in the near future, eighty percent of the world product. The United States represents at present six percent of the population.

In order to understand our present attitudes toward our profession and its avowed objectives, we must try to comprehend the state of the world's economy. If we are hung-up on materialism, if we feel the need to dominate matter so deeply that it excludes almost all else, then we would be foolish indeed not to face up to the material situation of our world and of its inhabitants. We see two principal and related facts. The first is that the natural wealth of the globe at any given time is limited, although there does not yet seem to be any limit to its population. The second is that the present distribution of this wealth is dangerously inequitable, and the presently projected distribution even more so. (At the present rate of development, the United Nations estimates that it will take Africa about 300 years to achieve parity with the developed continents.)

We may conclude from these observations that, in the interests of life on earth, we are all concerned in a critical situation. For we here, in particular, for whom the whole world is a city, urbanism is not only the organizing of a certain physical environment for the best accommodation of man's activities and tranquilities; it is also the efficient and equitable allocation, distribution, use, replenishment, and substitution of the world city's wealth. It is clear to all that inefficient, unevenly loaded systems will break-down, jam, fail to perform, die. Science and philosophy know this: irrational concentrations (are not all concentrations irrational?) of wealth and/or power destroy those who most presume to profit from them.

We live, or we hope we live, in the epoch of continental, national and even urban decolonization. Those old values which shone so brightly (for some) on the Edwardian scene have turned sour and we awake to a world which seems to be suffering from a seriously compounded case of White-Man, with complications. Our home grown colonies in the great cities of America, their ghettos, are beginning to become conscious of their status and, like all colonized people, are moving toward revolt. The wars of urban liberation are starting, and these will lead inevitably to revolution in some form. I meant decolonization in a literal sense. The world is, after all, only about twenty percent of white European origin, yet one sees European values being exported everywhere. Where they are not accepted, as in South-East Asia, we use force to impose them. Essentially these values derive from a galloping, unbridled materialism, a need to subjugate matter absolutely, which has been deformed into a belief that this domination requires to be demonstrated by ever-accelerating

expansion of the industries which are transforming resources and materials into indifferent products for the consumer culture. We have already seen some of the dangers of this curious preoccupation with quantity alone. There are other dangers, not yet physical, for our culture. By eternally weighing and measuring, and rejecting all that will not subject itself to the laws of number, we come in fact to the ultimate absurdity, for a materialist, of being subject to that which we would dominate and of rejecting, or ignoring, all that cannot be counted (butterflies). The healthy scepticism of the functionalists in architecture, for instance, has degenerated into sordid, cynical, illogical bookkeeping, which is sadly in tune with the values of our society. The result, fortunately, insures that these values will be, are being, questioned.

For at the heart of the problem lies the "structural unemployment", although none of our highly-touted Western ideologies will accommodate such a notion. We must then believe that the ideology is far from the practice, and that the need for wealth carries along in its wake the need to pauperize. Our home-grown colonials, the urban poor, may help us to find a way out of the dilemma in which we now find ourselves and which consists of knowing what's wrong, but not being able to do anything about it. If they adopt real revolutionary attitudes, we may learn from or be infected by them. (Perhaps this is only wishful thinking, and all that it will lead to is genocide at home, as well as abroad.)

In any case we can draw certain conclusions, for our own disciplines, from this contemporary disorder. Wealth is not created, only distributed, and the amassing of wealth by one group necessarily means deprivation for others. For the architect-urbanist this means that his designs should be efficient, economical, not wasteful either in building or in operation.

The man in whose honor we presume to speak from this forum and his contemporaries and successors, were instrumental in discovering and making clear a connection between design and social realities and aspirations. To my mind it is in this that lies their greatest merit, and a certain promise for design in our world and in our time. I would hope that, starting from the trail they laid, we European-Americans may find a way into our place in the world family of man, not this time as breadwinners (to be a winner, you need losers) but as responsible members who will have understood that wealth for its own sake is worthless, that ostentation is not a state of glory, that waste, though it may help to confuse issues, is essentially stupid, that empire-building is a dirty game for evil children, and that what is good for certain corporations is not necessarily good for anyone else.

Architecture, urbanism, are governed by two great families of determinants: the ponderables and imponderables, the quantifiable and that which defies quantification. As Jerzy Soltan pointed out here, architectural thinking seems to oscillate between these two poles, in monotonous flights of fashion and fancy. At the moment, the imponderable, the butterfly, seems to be incompatible, not being apt for service in the information world, where safety lies in numbers. But this will change. The move to change has begun among students everywhere, and tomorrow we may face the danger, equally deadly, of an invasion of butterflies, to the exclusion of more weighty matters. However, this does not appear likely, since dura lex, sed lex, or as Georges Brassens puts it, "The law of gravity is severe, but it's still the law." And of course it's what holds our buildings up. Our society continues to be regulated by the numbers

game, and our buildings still must stand. What I would like to recommend to us all is that, in our materialist culture, we should attend most carefully to imponderables, for if they are not constantly present in our minds and implicit in our plans, we run the risk of permanently blunting our senses and our sensitivities, of seeing our most palatable characteristics atrophy, of losing our faculties of judgement, and of degenerating into a race of mathematical idiots.

This wanton neglect of imponderables is inducing us to create or accept nondescript environments. They are ours but we cannot take possession of them, for we are alienated in them. Our mediocrity, expressed in the environment, spreads through it, feeds back into the sciences of environmental control and the art of environmental design, and produces further mediocrity. To break the cycle we need to consider such unmeasurable factors as compatibility, identity, comprehensibility as well as such well-known measurables as economy. Perhaps through this examination we can re-estabiish a sane relationship with the built world. Certainly the continued ignoring of imponderables can only lead to its further degradation. The world of no-butterflies which we have been so busily making (in Hue and other places) in short-sighted frenzy---have it now, pay later---is finally a most un-inhabitable place, even though it becomes eminently quantifiable for the delectation of the computer industry. In fact, as it becomes only quantifiable, this world slides into the logical absurdity of violence and repression. Keep the butterfly in mind.

Now I would like to evoke briefly a certain urban reality. We all live in cities, of course. What I mean by this is that, in our northern world at least, the interdependence of all functions is so apparent that the distinction of various areas as entities no longer implies their autonomy. We can consider, for instance, that all of North America is a city, or that the whole of Europe is a city. Naturally these cities have rather large holes in them, but from the point of view of efficiency and economy or energy and improvement of conditions here and elsewhere, such an attitude seems correct.

The city is experience not as an intelligible entity but as a random series of urban events. Some of these are negative and should be considered as pitfalls; others are positive and can give us clues as to what urbanism, which is everybody's business, mught be expected to do in the present reality.

In the first category of urban events we would place those which make the city a harmful or dreadful place, and therefore an unfit habitat for man. Among these are: the pollution of the physical milieu, psychological stress and physiological distress. We say, then, for instance, that smog is an urban event, water pollution is an urban event, noise is an urban event, as also are mayhem, war and nuclear explosives. In the cities of the West today, we live at the bottom of a stinking sewer, an intolerable physical environment. The city of Western man, the materialist, inflicts upon its citizens an environment which not only does not sustain life, but in which life itself dies.

Even if we leave out the structural inequities of Western capitalism, which aggravate beyond any possible limit of acceptance the physical conditions within the city, we cannot conceive of today's Western city as being a fit place for the noblest of beasts to live out his life. Man responds to his environment; he is formed by it, as an individual and collectively. It is difficult to conceive of a sound society, composed of

reasonable men, flourishing under the physical and psychical conditions which now reign in cities. That there is still some vestige of civilization is almost miraculous. And the area of real social harmony, political interaction, human interchange, is constantly being eroded. The burden of living together (which shouldn't be one) is increasingly being shifted to paid mercenary peace officers: the army and the cops. I would contend that no society could do better under the circumstances, and I would affirm that our living in a physical slum has reduced our changes of survival as a race: homo civitatus.

As we go in peril of our lives, in constant dread of mayhem or of insidious respiratory ills, in an insane bedlam of rumbles and shrieks, drinking fake water and breathing fake air, we may well wonder what an urbanist's purpose might be. If his plans tend to accelerate the degrading of the environment, through neglect of the influence of his actions on the climate, for instance, then his purpose is nefarious, no matter how good his intentions may have been. The disposition of buildings is an extremely serious business, since it will generate certain activities which will influence the physical climate as well as stimulating psychic responses through their mass, shape and color. The urbanists are directly concerned in the creation of the environment and in its impact not only on our physical senses as individuals but also on our collective sense of well-being in society. Pollution and noise are not only the concern of health authorities, mayhem is not only the concern of the police and insurance companies, these are also the concern of the urbanist, for they may be products of faulty design.

On the other hand, the present urban reality also offers us some landmarks by which we may orient our policies in a positive way. Despite all of the perils and horrors of the city, it is still the expression of man living in society, i.e., in harmony. Throughout time it has been true that men have made cities because their common interests have thus far outweighed their individual rapacities. Men have chosen to live together in cities for many reasons. As it might have been put by our grandfathers, "Men live in cities for their mutual benefit." This idea, that the sum of their conjugated efforts would be greater than all of their individual efforts, is basic to the drive towards the urban society.

Change is the only constant of urbanism. (This statement has of course its overriding exception: Man is the principal constant of urbanism.) Exchange is the essence of our cities. Change and exchange characterize the city.

Exchange is one of the most significant urban events and one of the most helpful groups of landmarks. The city is essentially a place of exchange, of many forms of exchange. The exchange of goods is constantly evolving, from the market place to the highly specialized shops and back to the discount houses, changing with transportation networks, and changing them. We exchange goods and services, ideas and opinions, friendship, advice, insults and injuries, etc. The will to exchange, to cooperate, is perhaps inherent in man, but the city is the most intense expression of exchange and cooperation. The exchange of ideas, opinions, advice, insults, etc. is of course the everyday life of the city and permeates the public domain in congenial, or less congenial, places. The making of such places, where spontaneity can flourish, is the urbanist's role. Parallelling this spontaneous everyday urban intercourse, there is the more formal occasion, the cultural or political event which takes place in specific spaces, specifically dedicated to those purposes.

A second important group of urban landmarks are those which have to do with the delight of living in a city. Delight is an urban event; it takes many forms: the pleasure of strolling in the city, certain forms of transportation, sitting quietly doing nothing, looking at and being with people who delight in being together in the city, some forms of organized entertainment. What is important to the urbanist is to believe in delight as an urban event, to condition himself, and to turn-on to the city as delight, so that he may contribute to the delight of the city (possibly simply by not making gestures which inhibit delight).

Urbanism cannot easily be limited. When we operate on the city, we do so in the context of the country and even of the continent, and it is quite clear that any planning in rural areas has direct consequences for the cities. When, for instance, the number of people living on the land is reduced through more efficient agricultural organization, those who are thrown off the land must turn to the city, and a place must be prepared to receive them. The continental city, which is composed of city, farm and natural reserve, must re-integrate these former peasants into its social, economic and political structures. When this is not done, when this aspect of change is ignored in favor of so-called "free-wheeling cannibalism", we see the other side of the coin of technological progress. It is also partly because this simple human interpretation has been ignored, or worse, rejected, that we are presently in such grievous straits in the cities of the north. The coin which has "Technological Progress" on its obverse too often has "Social Disintegration", "Exploitation", "Oppression", "Poverty" stamped on its reverse.

Why is this so? When it is so, would we not do well to question the progress? Does the fully automatic tomato-picker necessarily imply Watts, Newark and Bedford-Stuyvesant?

I have just come from seeing a great part, possibly a majority, of an eminently bourgeois, deterministic, hard-nosed Cartesian culture express a temporary spontaneous revulsion towards the realities which seemed to be its ideal and toward the guardians of those realities and of that ideal. I felt at one time that what the students in Paris were expressing was the disillusionment of the bourgeoisie with its own values. The workers, too, very nearly turned-on to the idea that a change in structure would be for the better. But the ideals of our culture have never been clear: we have vague aspirations to a better, richer, fuller life allied to a fear of change on one hand, and concrete desires, needs, for more playthings, the consumer goods, on the other. These are usually mutually exclusive. I bring this up because, for me, one of the most interesting aspects of this urban event was the deadly influence of allegorical urbanism on the students' movement. When the students were locked-out of the Sorbonne, that temple of class, symbol of an elite, their movement was coherent and powerful and made the government bow before it. When they evicted the cops, it was a magnificent demonstration of the power of ideological dissent. But when the CRS moved out, and the students got off the streets and back into the system, where they belonged, the bourgeois power structure was reassured, for the old values have so permeated the old stones that the student occupation of the Sorbonne meant, at least for the present, an end to their revolt and the acceptance of the system in which they were the trained elite. From there, the discussion turns on academic, not social reform, although this second was the generator of the movement. Such is the pernicious effect that buildings as symbols can have on the dynamics of social change. This kind of Sunday urbanism, Sorbonne urbanism, responds to

a deeply-rooted desire to preserve the status quo, no matter how inequitable it may be. The students, whose movement began in modern, dead-pan Nanterre, rushed into the tradition-crusty trap of the old Sorbonne, which has so long been the mother of justification to all sorts of opportunism.

Sunday urbanism, Sorbonne urbanism, plays an essential role in our society, that of inhibiting change, especially changes in the concept and structure of authority. Sunday urbanism is always a monument erected by a society to itself, as though it could materialize its ideology through building, and thus fix the social structure forever at some state which might be considered satisfactory to the Sunday urbanists and others who are in a position to wield power. It is then restrictive, constrictive, intimidating, overwhelming, expensive and stupid.

The urbanism of our concern, everyday urbanism, is continually preoccupied with change, that is, with adapting the physical milieu to the evolving needs of a changing society. We are concerned with building-in potential for change, with establishing dynamic organizations which will remain permeable to the impact of man and responsive to his need to shape his own environment. This everyday urbanism leaves open the possibility for society to modify or to complement those minimal decisions which must be made at every moment in the interest of smooth functioning. But the organization springs from a dynamic idea. Organization is action: the act of ordering, which can never be accomplished since that which we would order is constantly changing. So it remains more of an intention than an act. We will be constantly organizing the environment without ever getting it completely, definitively organized. It might seem then that organization is a struggle against chaos, but I think that this notion is superficial. Without organization there is simply lack of organization, and this is not necessarily chaotic, However, it is true for certain organisms, of which we are one, that life and development are only possible within the framework of a certain organization. But life will seek constantly to modify organization.

Now if the purposes of organization are readily apparent, the nature of the organizations required can be determined. However, when we consider the city, and the urban organizations needed to keep it functioning smoothly, it becomes clear that these various systems overlap and intertwine to such a degree of complexity that they cannot, in fact, be reduced to casual gestures. Most important, they are constantly changing, in themselves and in the relationships between them. It is only reasonable then to assume that the organizations which we propose should be, in varying degree, dynamic. By this we mean that they should be capable of growing and changing, and/or of adapting to and accommodating change within the systems as well as in the functions which they support, which are ever-changing, not only in their nature but also in their relationships to each other. This leads us to seek systems, structuring devices, which present possibilities for adaptation and change. We usually rely on simple geometries, stems and webs, since these are easiest to adapt and to deform as the need arises. We imagine, too, that these dynamic organizations are as much concerned with tranquility as with activity, as much with standing still as with rushing about. Further, we imagine that the purpose of organization is to order the growth and change of the built world so that we may do those things we wish to do in the way that least condemns posterity to doing the same things in the same ways. In order to begin, we must accept the reality of unpredictable futures.

Then we can start, not to solve problems, nor to come up with cure-alls or ultimate solutions, but to cope with urbanism.

We will not try to take unnecessary options for future development, since we suspect that these may hinder more than help our successors to adapt the environment to their needs, about which we know nothing. It would be vain, foolish, useless and wasteful for us to presume that our necessarily ill-advised decisions will be valid in the future. We hope, on the contrary, to leave open as many choices as we can and to occupy ourselves with our own world, which is in serious trouble (and things are getting worse). We can no more hide in the future than in the past from the responsibilities of today. For us, the future is now. We can only attack our own problems, and, I think, say that if the future will exist, then the best legacy we could pass on would be the fewest possible unnecessary commitments and aggravated problems. "La fuite en avant" is more than a feeble excuse for not doing what we have to do, it also increases future difficulties, as indeed it always has done. I think that rather than trying to load the future with speculative proposals which respond to imaginary situations, we would do better to increase our efforts toward propagating an urbanism that we believe in now.

"Why don't they get on with it?"---a cry from the heart of everyone concerned. When the architect-urbanist suggests certain choices and courses of action to those persons who have accepted the heavy charge of administering the public domain, these never come as a surprise. Like any man in the street, the administrator recognizes the arguments and the reasons which are put to him, and he fully understands the benefits to the public which would follow from positive action on these ideas about organizing the urban environment for the good of all. These are not revelations, or mysteries. Urbanism is not a question of good taste, or esthetics, although esthetics is one function of architecture and urbanism. But we are more concerned with good sense than good taste and, when we see that the administration is as aware as we are of the advantages of a coherent policy for the maintenance and development of cities, we may well ask why they, and we, don't get on with it. Thus far we seem only capable of taking, or failing to take, decisions for extraneous reasons which seem always to have more to do with private than with public interest. If this continues to be so, if this is really the world we want, with a corporation of architects and urbanists whose function is to try to put a good face on the random, often contradictory, results of "free-market" profiteering, hadn't we better admit it? This is at least part of the present reality in which we work, and the answer to our question, "Why don't they get on with it?" is: that they can't, not without enormous changes in the structure of power having first been made. I feel that this sentiment is at the source of much of the discontent which prevails today among the lower echelons of that structure: that is, the students and the intellectuals, the drop-outs who have the feeling of total impotence in the face of such a tremendous enterprise as changing the system.

We have seen that urbanism is apparently not doing its job. This may be because we expect too much from it. The society appoints, commissions one man to make its entire environment; dwellings, ways and places are all considered to be within the competence of the architect-urbanist. This is clearly an overloading of the designer, and what society gets in return is approximately what one would expect: the environment thus created ranges from the inhuman to the mediocre,

always including elements of both. But society cannot cast off all of its responsibilities in this matter simply because the architect-urbanist exists and is willing and foolish enough to wish to try to shoulder them alone. Urbanism is everybody's business, and design, urban or architectural, is not a mysterious, magical activity to be entrusted blindly to the high priests of form.

Where the architect-urbanist can be effective, if he is given adequate assistance by the administrators, the social scientists, and technocrats of all breeds, is in the development of organizations which produce the built world, the city. The architect-urbanist takes those quantifiable data which are collected by the technocrats, puts these into context with the imponderables which it is his business to apprehend, and collates the whole set in order to make a temporary equilibrium of development policy for the city, or for areas of the city, or for the extension of the city, or for new settlements. His physical area of intervention can be within the city, on the edge of the city or in a new urban complex. In every case, his world is the built world, his realm the city of man. He is principally concerned with the ordering and the articulation of the private and public domains, and he pursues this end in the context of space and time and number as he perceives them today.

Having judged our activities in their global context, I think we must make the considerable effort of putting the case for a choice of possible urbanisms before the authoritarianism (which is a ruling class in grave danger) as an alternative to the present degrading situation of oppressor and oppressed (or affluent and underdeveloped, if you prefer). We need to continue to develop urbanistic attitudes which will include the rest of the world, not merely as a reservoir of wealth for our own selfish uses, but as a coherent and equitable system.

I'm not suggesting that architects and urbanists can cure all the ills of inherited colonialism. I don't really believe in problem-solving. But I think that we can question, constantly, without hoping to resolve definitively any questions. We can develop attitudes which enable us to act sensibly, knowing that what we do today will need to be reconsidered tomorrow. There is to my mind a great truth lurking in the permanent cultural revolution. If we can unburden ourselves of the need to formalize our processes of thought and get rid of the belief that anything can ever be settled "for once and for all", we will have made conspicuous progress toward a city of man. Since the business of urbanism is organization, and since organization is rooted in logic and governed by humanism, it should be possible for the urbanist-architects to at least show a way to channel the energies and the wealth of the world in the direction of decreasing, rather than increasing, disparity. Systems of urban organization in which waste of energy, space and other resources are implicit, such as the sprawl of privileged properties and the insane overextension of private communications channels, can only be read as an absurd defiance of, and disdain for, the aspirations of the many by the few who we are.

I suggest that we consider carefully how long and how far we can continue in this headlong flight from global realities, that we re-evaluate the responsibilities of the urbanist, that we seek to discover the consequences of our designs and to weigh these against the meagre satisfactions of conspicuous over-consumption. For how can we ever hope to be at peace with ourselves, to establish our communities in harmony, when we know that the price of our comfort may be someone else's poverty?

IV. PANEL DISCUSSIONS

PHYSICAL FORM
The Environmental Implications of Compact Design

Wilhelm von Moltke, Chairman

Raymond Affleck
William Conklin
Harold Imus
George Kostritsky
Neal B. Mitchell, Jr.
Adele Marie de Souza Santos
William Wheaton

CHAIRMAN. Ladies and gentlemen, welcome to the session. Before we start I would like to restate some of the basic premises of the New Communities Project. The primary objective is to provide an environment which enables people to have much greater social interaction, that is an environment where children will be able to move freely to the center, to the educational facilities, without supervision; where old people can move safely; where you have choices, because you have lively urban spaces within easy walk of each dwelling unit and wide open space. Another objective was to reduce the cost of the infrastructure. And others were to provide an alternative to present-day living and to conserve land in our rapidly urbanizing areas.

I would like to point out that this is not a design. It is a prototypical proposal, a test of certain ideas of the infrastructure of a system or web of systems which can structure the city.

Quite obviously there will be question raised as to implementation. How do you market something like this? I would like to remind you that this panel is addressing itself to the question of physical form, although it is true that implementation and physical form are closely related. We will assume that we can get the people to the new community, by offering them such carrots as a very elaborate system of education. People from the center city, people from underprivileged areas, will be offered a variety of jobs and specific jobs, decent housing, and above all the opportunity to learn new skills and, therefore, get the old incentive of increased earning power, of increased dollars within their foreseeable life span; better education for their children. We take this as an hypothesis.

[A review of the urban form followed, based upon plans and drawings. This is condensed and bracketed below. The Summary Report contains the illustrative material.]

[CHAIRMAN. The core area will be more than the typical American shopping center, since it will include a college, offices, educational and medical facilities. It is placed on one side of the new city because its function is regional (it will serve 300,000 people). The presence of such a facility will trigger development of the new community. The central core is entirely pedestrian; reductions in time-distances are accomplished by moving sidewalks, whose cost is $600 of the total $2,900 per dwelling unit. One hundred percent parking is provided on both sides of the core.

The residential areas are accessible by car. Every dwelling unit has private outdoor space and is at most only two flights up. The free-standing house is not offered as an alternative, because it has been tested in the adjacent region.]

JOHN L. KRIKEN (Student Aide to the Panel). Great effort was made to separate certain parts of the infrastructure. For example, we kept the parking facilities separate. In the early stages of the core development, it is on grade much like a shopping center. Generally in New Towns, the core has to be structured on a platform, with parking underneath. We wanted to avoid that kind of extra cost, so the parking structure occurs at a later time, when we build the last phase of housing. The movement framework is also kept separate and therefore adaptable to possible policy changes.

The only thing that is integrated in a total way into the core is the university, which we hoped would grow with the shopping development. The university was modeled after Forest Hills College by Harry Weese. It includes student services, teaching links, library-teaching links, and also the resource center for the whole community.

The major shopping area is in the central core, and so are most of the amusements. The larger-scale civic activities as well as certain office buldings will be built in the final stages. We have grouped things, not in a rigid way, but in order to encourage diversity and maximize their characteristics.

There is a roof between the parking and core areas, an envelope protecting the users beneath from wind and rain and snow. We hope to gain cost efficiencies for construction beneath the roof. It obviously provides a controlled environment for the severe winters in this area.

NEAL B. MITCHELL, JR. We costed it, and it was sufficiently feasible to bear further investigation. That is as far as we took it. It is made up of a structural bay of 32 by 32 feet. Then a standard industrial skylight section would be prefabricated and lifted onto that modular bay; by its repetition it becomes something a good deal more than a standard industrial part, rather more like the Crystal Palace idea.

[ANTONE NELESSEN (Student Aide to the Panel). Transportation is divided into several elements. The primary element is the loop which connects the smaller communities to the core. Major community facilities are organized around the transit stops.

The core has its own transit arrangements, including the moving sidewalk between the parking area and the core, and the Dashvaveyor. The Dashaveyor is innovative and seemed more flexible and cheaper than existing systems.

A service network gives vehicles access to all parts of the city and residences from certain entrance points only.

Later, the transportation systems could be expanded, to connect with Foxboro State Forest and possibly with industrial areas on 495 and I-95.]

WILLIAM WHEATON. Why was a decision made not to locate the city on the New Haven? It is only a couple of miles this way.

CHAIRMAN. Because this terrain was better and more suitable. We tested various sites in this area.

MR. MITCHELL. Also---the New Haven attaches to the industrial section.

ROGER TRANCIK (Student Aide to the Panel). Another point---water was more available on this site. A real problem in this region is getting water in-

to a community of this size.

[MR. TRANCIK. Community facilities are located in the core and throughout the smaller communities. Major school facilities are at the greenspace nodes. These are guidance centers at which specialized studies are concentrated. The study spaces and the major education resource of the core are easily available from the outlying areas.

Social services and commercial facilities are taken care of by the same dispersal system. Major facilities, such as supermarkets, in the core, smaller facilities, such as daycare and nursery centers or convenience shops in the communities. Grocery shopping on the 5-bag scale is facilitated by nearness of shop, electric delivery carts, or moving sidewalks.]

[The problem of higher costs in a dispersed network of shopping was argued. The systems for franchising small shops (as 7-11's) were mentioned.]

GEORGE KOSTRITSKY. We have got here a very valid experiment in terms of what a new community could be like, assuming such premises, as a certain density in a certain location, certain population composition, and so forth. But I think we are getting embroiled in technocracy, technology, and this is not the point of the discussion.

I have a lot of questions. One is whether or not we are really developing the physical form from the life style of the poeple that we are dealing with. One of the premises here ought to be an explanation of this life style, how this life style is affecting this physical form: is it affecting the physical form in linear terms; and is this what we are dealing with?

The ghetto people live in linear cities and, therefore, we have to have linear blocks and linear transportation systems. It seems to me just a point of departure. I am reading this plan which is beautifully drawn, and it comes to me that the life style is affected in a linear way in a physical form.

FROM THE FLOOR: Maybe Dean Sert would like to comment on the idea of the street and those public activities which represent life styles.

DEAN SERT. Yes. I think George put the whole thing on the level that this panel should deal with. One of the main things here would be to discuss the problems that come from starting on such a basis, and bringing such an amount of people together. Do we really get the certain advantages and if so, how? What advantages? What pattern of life could really develop here? How would the people be happier living in such a city as against living in a more dispersed type of community?

We wanted to see if we could put a certain amount of people together (and we took this figure of 200,000) and give them all manner of very accessible services that they wouldn't have in dispersed communities. We started with the premise that there are certain distances that could be covered and of course in the discussion it was that a normal person can walk 400 feet. You don't worry about the people with the car: you do have tremendous parking lots when you get to the shopping centers and from the shopping center you have a push cart to take your things there, and they have these distributing stages and the car stops, et cetera. We did also consider something that is not very often talked

about, which is the convenience of walking under protected conditions. That means there is a roof over you, something to shelter you from the winds and the winter.

One of the controlling elements in the scale of this community was the size of the shopping, or rather service, core in its full development.

This side grows on a linear pattern which is much more favorable for this type of structure, because at one moment, right through the core of the city---this should be emphasized, it is difficult to read in the plan, because it is a sort of final stage---this whole spine of shopping and service, regional service facilities, shopping, educational facilities, and health facilities and recreational facilities, et cetera, et cetera, et cetera is faced with a tremendous parking lot of 5,000 or 7,000---what is it, George?

MR. PILLORGE. 5,000.

DEAN SERT. 5,000 are parked right on grade in the best American tradition and visible from the roads. So, that is a typical existing system.

One of the main things in developing a new community is how do you make life attractive to the people who come, the first settlers? How do you give birth to that child? That is the really important and difficult part. We have 300,000 people using this regional service center, and they can arrive by the same means as they do today in any regional facility. In this center we have put together the shopping center, the hospital facilities, the university facilities or educational facilities, and the recreational facilities, et cetera. You put all the eggs into the same basket. Once this happens, what you have is an initial core of considerable dimensions, because you are serving the region. The first settlers don't go out and settle in a desert; they find immediately an urban environment that is starting to grow. These people find jobs here, because all these areas need servicing, and they benefit by being close to all these facilities. That is the start of the city; the most difficult phase of all.

From here on the process of growth of these central areas of the city is a much easier one and as they grow, all these other means of transportation become economically feasible in the later phases. The first phase, with the moving sidewalks, is relatively modest. They can be added by sections of 400 to 600 feet, whenever convenient or necessary. They constitute a means of public transportation that can grow very modestly with the city.

I want to emphasize that all I think we have been able to do in the months we have studied this thing is to explore the scale of these elements and make the basic study for an infrastructure. The majority of the plans of the cities we do in our schools begin by the roof, which is an error. Until the seed of the infrastructure is properly placed and properly scaled we have nothing. This is what determines the package of this size and this size of the units.

We worked out figures (and we can see they are reliable) to determine the size of the infrastructure and the positioning of the roads and the nodes and the road accesses, et cetera. We chose the intersection of the two big expressways; it is a good place for placing the regional service center. It has great accessibility from the roads, and the city would have a face which would look like a super-regional center

facing towards the road.

The higher buildings could come at any moment, but we know that the vertical transportation elements and the elevated sidewalks (or corridors) can be placed strategically in relation to the nodes and to people passing. We have always left in this area a green path so people can choose, when the weather is fine and the time of the year is agreeable, to move into the green area. The street is an important element in terms of the space and we have neglected it, but it is a spatial element; it is directionally defined in this case, and it has a definite purpose. The pedestrian street shouldn't be ruled out of the dictionary of the urban designer. So, we re-emphasize the establishment of the streets as forms and the nodes to serve mainly as elements of placement of other simple elements of movement; so these elements are placed in a way and scale that are determined. That would be about all the constraints that any architect or designer would have here, the way these smaller elements and walk-up houses are laid out. The shape of the spines themselves and the height of the slab buildings or step-down slabs is completely free: we tried to put as few constraints as possible on the architect.

This big glass and steel structure is one under which other elements can have freedom of expression, where your billboards and publicity take on a classical dimension. I am not against billboards, but they are put on our roads with little frames as if they were pictures. Once you treat them under the big glass shed with liberty to light it during the night and day and so on, you have a facility for a lively expression and a constantly changing facade. The effect of this big glass spine would be rather surprising from the road; for a small community of 200,000 people would have the biggest facade of any community today.

CHAIRMAN. You have a combination of pedestrian spaces plus pop art.

DEAN SERT. Yes.

ADELE MARIE DE SOUZA SANTOS. I would like to express some basic points about social interactions, if we take the idea of interactions as being probably the basis for our work in urban design in the sense that we give form to and facilitate interaction between people and between institutions. If we study these patterns of interaction in the United States, I think it is likely that we will find the ultimate expression will not be either in suburban pattern nor the central area pattern which exists today, but probably something which is neither one nor the other.

I think people like (Melvin M.) Webber have adequately described what the likely emerging urban pattern is going to be. He makes a very good case for what he refers to as the "nonplace" urban role. I think if one had started with the whole idea of interaction in space, it is very unlikely that one would have come up with the idea of the compact city; but, given this as the basic departure point (about which I have some doubts), the fact that it is probably historically invalid anyway in the United States today means that there is going to be extreme difficulty in getting the kind of population mix which has been set as an objective.

Given that the population in the city is likely to be the lower income group and the moderate income group (if in fact you are able to get them in there), then it seems to me that you

get rather strange patterns occurring, in fact a sort of central city in the middle of a suburban area. In fact, it becomes the focus of the suburban sprawl in this area, and it is a replacement of the same kind of a population that you are likely to get in the central areas of the city, in the same kind of juxtaposition as in the central area. If our idea is here that urbanity will bring about greater social interaction I think it has been adequately stated by many people, particularly Gans, that propinquity alone is really not enough, that obviously something else, heterogeneity of background, of economic level is of interest, is necessary to be there before in fact interaction will occur. It has been stated as a basis of the city that the population will be mixed up, that you will get a mix of age groups, ethnic groups, racial groups, income groups, religion, et cetera, in the city. What you will have is a density with a tremendously heterogeneous population which are expected to interact, and this is a major basis, as I interpret the compact city.

CHAIRMAN. This does not attempt to say that this is the only interaction there is. This only adds a new type of interaction which is now not available. You still have your car, and you still have interaction within the whole metropolitan region and within the whole world depending on your cultural level or your particular background or interest.

WILLIAM CONKLIN. I would like to raise a general point concerning the procedures that we can use for evaluating this kind of physical form.

We are faced with a very well-thought-out series of plans and systems. There are many ways that we could use for evaluation. One of them is the method that we are now using, which is to discuss the plans amongst our own group, to have architects present plans to other architects and to find out what we ourselves think about our own sort of proposals.

A second might be to make the effort to involve those groups that might potentially be living in this place and find out what they think about it. This is fraught with difficulties. We all surely have questions concerning the validity of the usual market analysis techniques as they might apply to a proposal like this which involves radically different life styles and difficulty in imagining it and difficulty for potential buyers to test and evaluate it; nevertheless, this procedure, I am sure, would have value as a testing procedure.

A third procedure might be to build a section of this and try it. This no doubt also would have results and undoubtedly would produce great changes in further sections as they were constructed.

A fourth procedure is to make efforts to develop prediction procedures. Surely we could go further in this process of attempting to predict the actions and the operation of portions of this than we characteristically do.

Certain sections of this that have been discussed today are susceptible to very careful analytical testing procedures: for instance, the transportation systems that have been presented this morning, including the rapid transits, and the walking systems, and the moving sidewalk systems as to how they all interact. Yet we have not been given total time figures, total trip figures, and the time required really from house to

store and what is involved. It strikes me that in the end the potential inhabitant will evaluate that aspect of the plan, the transportation procedures, on how long it will really take him to move from spot to spot. Certainly the points that have been raised concerning the mix of people could perhaps be tested, at least by trials in other location, and perhaps the housing patterns.

CHAIRMAN. I would like to come back to this problem of transportation. Maybe George could speak on this.

MR. PILLORGE. I agree this is exactly what is necessary. We set up a series of tables and take characteristic people in the families, such as young children and mother, father and so forth, and different characteristic places in the community, tabulated types of trips and how long it should take or would take by different modes of transportation and how many changes were necessary. We have done this kind of thing: it is not satisfactory in every aspect, but we felt in the great majority of trips it was.

I think that this would be the real direction for analyzing the system; a very careful evaluation of the time it does take for certain types of trips, so that you begin to simulate motion and movement in the city. In the transportation report we do point out that while we have sized the roads and the transportation transit systems, we have not sized the pedestrian system, which is really the one that probably would be the most difficult to analyze in detail and which has to be done at the most intimate scale of design.

RAYMOND AFFLECK. I want to make a number of points that relate to a comment that Professor Galbraith made yesterday that I think a lot of people in the audience were somewhat exercised about. I think he very adequately put to bed the notion of economic man, and hence the economic city, and the GNP myth; but appeared to say that there is an either-or, bi-value relationship which is the aesthetic notion of environment. To me this bi-value mode of thinking is one of our cultural baggages that prevents us from getting-with what the total environment is.

If we can all agree that the notion of the economic city is finished aesthetics becomes not a "thing", as Professor Galbraith suggested but a way of activity and a way of life with the total input of activity. I would propose the totality of total experience as an alternate to the terrible simplistic economic city.

I particularly take issue with the discussion that was going on about marketing and buying groceries. I don't agree that there is anything trivial about this. I think that one of the great criteria of the city, that was stated yesterday, is exchange. The supermarket in my view, although it has economies inherent in it, is very clearly the mechanistic dehumanization of the experience of exchange. If we look at this notion of total experience as the basis of a mode of looking at design, we have to admit that, in terms of human experience, shopping in the so-called slums has it all over shopping in the so-called efficient (in terms of economic man) supermarket. Now can we get some of this texture and quality of the corner store as a human interface experience, choice, alternate, within the realms of our technology of distribution? If we merely say the supermarket is better, we are falling into the trap that Professor Galbraith exposed; so I expose that now.

I think one other thing. I feel strongly about the notion of moving sidewalks. I feel that Dean Sert has been very eloquent about the quality of the pedestrian street as an open-ended experience (again, places where something can happen, and that obviously must have the advance possibility of retreating into privacy or just being there). In my experience moving sidewalks are unfortunate mechanistic devices. They separate people in going places, so that the possibility of the chance encounter is destroyed by a device. People moving in the same direction are put in a capillary, a Newtonian physics situation which I can see little advantage in. Also, moving sidewalks are very expensive, and the design of the joint which we all know is the major problem of design, has never been solved. In terms of this criterion of exchange and intercouse and happenings and events, just as a supermarket is very much an anti-element environmentally, so, I feel, is the moving sidewalk.

This is not so, I think, about the minirail. You can have a very turned-on visual experience as the minirail at Expo, I think, proved beyond a doubt.

About the problem of weather protection within a pedestrian environment: I am somewhat sceptical about your notion of merely roof protection against wind and snow and rain, without total weather conditioning. At Cumbernauld, it has been discovered that the roofs do not protect against wind, because of the very difficult aerodynamic problems. This is certainly true in the Canadian climate. I would think this needs a totally air-conditioned pedestrian street. The wonderful street where things happen we tend to think of as being in a warm environment.

CHAIRMAN. The pedestrian walk within the core will be air conditioned.

MR. AFFLECK. Under the Crystal Palace?

CHAIRMAN. Yes. The others, however, are just protected from the rain. Since Mr. Imus is here, I would like him to talk to the question of the shopping facility, the chain supermarket, which is distributed in small units throughout the area.

HAROLD IMUS. I think the thing to bear in mind is that the world at large started with small shops, at the pedestrian scale, and, until probably 1930, that was fundamentally the distribution system with the exception of the central business district. You can find it now in Greenwich Village, and you can find it in a few other places. But it seems to me that the demands of the population, unless this one is unique, have pretty well eliminated the humanistic scale of small facilities.

Let's assume you have massive subsidies of all phases possible to achieve what you visualize is your intent in this new community. On the other hand, if you assume that your merchants are to be merchants like anybody else has ever seen and will carry the kind of brands and have the kind of store-style people are accustomed to, whether at the high end or the low end, then you are pitched into recognition of the fact that the occupancy, at least in the commercial areas, is quite likely to be similar to occupancy in other modern facilities. Then, it seems to me, you have got to recognize what the managements of those kinds of facilities are accustomed to, if you intend to get a decision about occupancy in the structure.

There is a way around that, which is to decide that you are not concerned with those management concepts, and that to the extent that you can't find a management, a shoe store, for example, that will accept this design with whatever is built into it, as the humanistic element, that you will then substitute a facility, as the Puerto Rican co-op stores used to do, and then you can produce what you wish. But it seems to me that you have then gone into an equation which is much more difficult to accomplish.

CHAIRMAN. If you look at the economy of the total enterprise, there may be other economies which will make it possible to have this somewhat more extravagant system of distribution and finance it that way.

MR. IMUS. I believe this is possible, if by public policy you decide that this shall be a unique size and that the government or the managing public corporation that is set up to accomplish this will see to it that all of these elements take place in the context of the most humanistic style, then I believe that is possible. But if this is a prototypical solution to a series of metropolitan area problems and you intend to use any individual choice (and not in controlled environments), then it seems to me that you have got to visualize these off-site decision-makers' attitudes.

CHAIRMAN. So you can only really justify anything by saying this is an experiment.

MR. IMUS. You can assume it as one, but if you reassume it on a repetitive basis, you have to make a massive change in the total United States philosophy---which may be your intent. It may be your intent, but it becomes no longer prototypical; it is a Utopian situation which you could establish if you get support for it.

MR. AFFLECK. Do you feel that some form of franchised techniques are possible? They have been used successfully in some industries. I am not in any way questioning that there is a design problem and that it is related to cost. We have to have modern economic distribution techniques, but I don't think we can as designers say that has to mean the environment of the typical sypermarket.

MR. IMUS. Franchising is a well established system, almost all 7-11's are franchised, all Holiday Inns are franchisees. One of the things you get with the franchises is a set of plans.

FROM THE FLOOR. What is a 7-11?

MR. IMUS. I don't know what it is in Boston, unfortunately, but it is an organization that Rouse has used as the operating vehicle to provide the retail facility of his minimum neighborhood unit. At one time they thought at Columbia that what they would do was set up as part of the corporate public corporation's program a system of small stores at the pedestrian scale, adjacent to the elementary schools. The same store operator would control the swimming pool and run the tot lot and provide the on-site management for these minimum facilities. They had about 50-odd of these facilities to do, and subsequently they chose to use the 7-11 outfit which is nothing more nor less than a reversion to the small store of the 1930's. It is almost a garage, a converted garage, momma-poppa store except that it happens to be repeated about 2,000 times on a corporate basis within the framework of a franchise. Fundamentally it is a small grocery store.

WILLIAM WHEATON. First, I am impressed with the romances that appear in the plan and the discussion of it. There is the romance about nature. If you look at this in terms of historic compact towns, it is awfully loose; it has an awful lot of open space and the density isn't high enough. We surely do need an experiment in ultra-high density cities.

The second is the romance of industry. All of this is couched in terms of job opportunities and employment, but the industry isn't on the site at all. It is way off there in an early Twentieth Century style as if it were evil, rather than being incorporated in the center of the city.

The third is the romance of social interaction and, as Adele has noted, what we do know about social interaction from a half-century of very, very careful and systematic studies, from Warner through Whyte and Gans and Wirth, is that the higher the heterogeneity, the lower the social interaction. Yet the social planners here say we must have a maximum social interaction community. If that is the goal, you can have it; but at the price of having a high degree of homogeneity in the sub-areas.

And, finally, we have just hit the romance of merchandising which seeks to abandon the economies which, I take it from current studies, produce something like 20 percent economies in merchandising in favor of more antiquated systems which are at considerably higher cost---characteristic of more primitive economies---and are characteristic of higher, affluent economies, because the Georgetowns and even the Harvard Squares are based on affluent economy patterns rather than poor economy patterns.

All of this seems to me to suggest that we have a lot of conflicting goals going in this particular community, of which the most important, I think, is the one of location. Adele pointed earlier to the contrast between, and the competition which would ensue between, the surrounding single-family, very low, rural densities and the high density proposed for this city. I think that such a thing will happen, and it will happen in the not too distant future.

Again, if we have 150-mile-an-hour railroad, which necessarily must have stops 40 miles apart, then this will happen between Princeton and New York. A person will be able to be 20 minutes out of New York and 400 feet from the station that takes him into New York City if he is willing to live at a density of 2,000 people to the acre. And then he will be affluent, not poverty-stricken. The amount of poverty-stricken of low income families that would be in such a place would be in small proportion, the small proportion that public policy could inject by subsidy or to serve local service needs.

One could follow the same line of reasoning down through each of these other conflicts of goals that appear here. One could make the New Haven passenger line come through this town, which is not a formidable expenditure. But then if the New Haven came through the town center, it would have a much tighter, much higher density. It would have two or three 30-story apartments on top of that station for the benefit of those who wanted to ride down the elevator and wanted to get on into the station and be in Boston in 15 minutes.

Somehow in advancing what is a terribly important design experiment, we must make tougher choices about what our goals are. Then we must go back

and go through the same routine that Dean Sert did a little earlier in discovering how this thing would grow from stage to stage and what implications that would have for its ultimate design.

DEAN SERT. I think many of the points you made are valid. We don't pretend this is a Utopia where life will be absolutely perfect. We do think it is worthwhile exploring and the only way that can be done is starting different prototypes. You can't ask a man "how would you feel like taking a jet plane from here to London?" when he has never been on a jet plane and hasn't even seen a jet plane. Today we are trying to compare things where comparison is not possible.

I think the moment has come where this great society has so much money in other ventures, that it will put money into the investment for better living. We are here settling populations with lower income, and the only thing that is talked about in the country today is the improving of the ghettos, which is the decision of the country---the majority of people should live in the ghettos. As far as suburban development for low income groups, I haven't really seen any that is attractive. So today we have for the people who live in the ghettos only the alternative of staying in an improved ghetto, which would take a long time, and where the government has to operate with considerable opposition and limitations.

We tried to get the students this year (and in other years) to design and play with little cartoons of what life would be like in the city, for the mother, the children, the parents, the friends, et cetera, during a 24-hour cycle. We always, when there is any kind of city of a better kind proposed, compare it with some absolute standards that are non-existent and difficult to reach; while we go on conforming to the standards of today which in no way are like our aspirations.

What I would really like to do is compare this plan to the existing conditions of today. This is a place where certain things come together and certain people may benefit with these things coming together and being close at hand. This is all we would like to do.

CHAIRMAN. All the present studies of social interaction, of course, are made in the present framework, existing framework, and physical design is an important part of it. You find quite different social interactions, for instance, in a Spanish country, in South America, where you get a much greater intermix of income groups because of the availability of greater privacy. You know, the single family house really is one of the many factors that forces or encourages homogeneity.

MR. KOSTRITSKY. I still feel that Bill Wheaton had some very important points. We come together here, and we act as a jury on a completed plan. We have been presented with an accomplished fact of this particular plan on this wall.

It seems to me that one of the things we are missing is the process by which this plan developed, why certain decisions were made in various aspects of the plan. For instance, how much open space? You said there is too much. Well, what were the alternatives and why was that much selected? And is it true that each one of these neighborhoods would be this different? The slide we saw yesterday gave an impression of the kinds of things that we would like to have in this city. The question is how you came to

a decision at the smaller scale as to what that would be? If you took economics as the point of departure---Hal's point of view---well, what is that, and what is its effect on the physical form and so forth?

This is not a painting. Perhaps we have looked at it as a beautiful Kepes mural on this wall, and you either like it or don't like it, but you don't know how it got there, it is there. It seems to me that it would be beneficial, as perhaps an extension of this experiment, to take these specialized points of view and extend them, using these various criteria as the point of departure, using five or six different alternatives. Then begin to say: this is the effect of the physical form and this the effect back on the people that will live within this city.

CHAIRMAN. Some of this has been done.

MR. KOSTRITSKY. But we don't know.

MR. PILLORGE. I think what George is asking for would be a great way to do next year's work or another ten year's work. You would set up a kind of study group or review body made up of people in industry and the community and so on, and you would work through the design of this town step by step, establishing goals, objectives and standards in a way that everyone agrees, and you come out in the end with a town and you go out and build it. But to go through that process in an afternoon or a day---I think you set a task which is very nearly impossible.

MR. KOSTRITSKY. I was only asking what criteria you selected. I am not suggesting that you should have so many square feet of open space per person, but the criteria you selected for, let's say, open space. How did that affect the physical form and all other aspects of the community? Because they are interrelated.

MR. PILLORGE. We dug into the standards for such cities as Baltimore, Detroit and Philadelphia, and from the American Public Health Association and several others. We looked at these standards together and found tremendous variation. We then talked with a variety of people in psychology and sociology and recreation and so on and tried to determine what type of space had to be nearest the house, and what type of space was most appropriate for what use, by what kind of person, and then from that point of view combined it with evaluation of existing standards, and, finally, we tried to distribute open space in the community. As a result of this process, we put the very small open spaces nearest the house. It is in the small playgrounds, tot lot areas, that the community has standards of open space most comparable to the established ones.

MR. KOSTRITSKY. It is not a standard for open space. You made a basic decision to throw industry outside of town, and yet if the industry were within the town, you would begin to have life on the city streets. Fifteen square feet is your rule of thumb, I guess.

CHAIRMAN. This was used to get only this open space which is needed for the small children. The bigger open space is outside of the city.

MRS. DE SOUZA SANTOS. I would like to ask George something. In this area the open space is integrated with the housing, but these fingers of open space are essentially dividers, not connectors between the areas. I don't even see a coordination with really high-density housing, nor do I see an integration of the

educational facilities with this green space. I don't know if I am being unfair, but I don't read them that way.

MR. PILLORGE. The educational facilities are all located right next to the open space; they are located where a green space comes toward the center. We thought of these open spaces more as joiners between communities than as separators. You notice they are not very wide. One, running between the inner city and the outer limits, is quite wide, but it is really a large park going through there. The others, however, are quite narrow, something of the order of 200 to 250 feet at the most; this dimension is necessary for sports use. It would be difficult to put any large play fields in the communities. Many of these active play units are out in the green spaces between the communities and shared by the communities, so they are not green belts in the sense you are talking about, but simply came out of the scale of activity that goes on within them.

The green belt does exist in the state park to the north and in the recreation areas to the south, which could not be developed in any case because of their difficult drainage problems.

MRS. DE SOUZA SANTOS. I wanted to bring up another point. Given the population that we are talking about, the lower and middle income group, given the fact that their economic level is going to change in time, and given that it is likely their aspirations, their life style, their needs in housing are going to change, I think it is likely that the institutions they need will change and that new institutions will in fact be formed. I would have assumed that this whole idea of the change in the population itself over time would have been a very major determinant of the form of the city. Looking at it, I wonder how in fact is the city going to accommodate new institutions? I know that there is a possibility of expansion here, but there isn't much possibility for modification and change within each of these areas as they are built. They are built, and that is it. The Mitchell system in housing does allow for some flexibility of the unit, but it is not going to be the only system.

Another kind of attitude is to say that the way we are going to make this thing will allow for enormous flexibility for people to begin to express their own life styles and build what they wish, but the whole nature of this city which is very highly structured and interrelated almost goes against the idea of a man building his own space or adapting his own space, because the thing is so densely coordinated.

I also wonder if some of these green spaces (even that given to the schools) might make possible adding on to these small communities which, I am not quite sure why, are separated one from the other.

MR. KOSTRITSKY. I would like to make one other point, that is, the multiple use of land. As, for instance, how do you use the park? We have an enormous amount of land being utilized by this right-of-way of the expressway. It seems to me that we are again doing the same thing we have done before. We are not multiplying its use in some positive way. We certainly haven't done it on the north-south spine which separates the garage from the neighborhood on the left. Here is an enormous amount of land with cars and roofs and roads and a little bit of open space separating the central core from the neighborhood.

If we are going to develop this higher density that you are talking about, I think Bill hit the nail on the head and that it is not dense enough. Maybe what we need to do is pull together these areas into a unified whole rather than splitting it up. We have created a land use plan here rather than an intermixture of uses. Maybe this was an objective; that I don't know, but my objective might have been different and Bill's might have been different.

MR. PILLORGE. In this plan, the central area was thought of as something of a town in its own right, is a town of 50,000 people with defined objectives based on walking distance and the highest density that we could accomplish in a walk-up framework. This I think is something that possibly Mr. Wheaton missed. We tried to reach very high density units that didn't exceed four stories for up to three-quarters of the population. You can't get much more dense than we have here with that objective and with our open space objectives and standards.

The communities on the outside then were thought of as rather independent elements with an independent method of growth. We thought these neighborhoods would be 10 or 20,000 people which brings these communities up to almost village or small town size. We located these on a topography which, in these areas, is more demanding than in the center. The green space also grew out of considerations of topography. The communities then stand as sort of villages which would be linked to the core by a rapid transit system. But we can see that this transit loop is not rigid: it can extend through other communities. In the same way clusters or villages could be added along this loop and continue to be connected into this core or possibly to other cores down the turnpike or Route 495.

So, these are the building blocks: this walking core, the communities along the loop, and the objective of a walk-up density. The higher the buildings, the more difficult flexibility becomes. In a walk-up category, as with systems such as Neal Mitchell has outlined, we feel there could be considerable internal flexibility.

MR. KOSTRITSKY. You haven't answered my joint use of land. This is really an important aspect of this whole plan. To the south, you have a huge amount of land taken out by parking garages, and access roads on both sides but you say you want to develop these two communities on either side.

MR. PILLORGE. We were trying to keep the cost of infrastructure to a reasonable minimum in this scheme. This includes parking structures as infrastructure cost, and we went to real effort <u>not</u> to build over parking structures in most areas; The cost involved in builiding on top of the parking structures and the loss of flexibility in the parking structure made us decide not to build over them. We used the kind of structure that has been developed at Logan Airport (a three-story industrialized concrete structure), where the parking space cost has been kept, as we understand it, to the vicinity of $1200 per space. We don't know exactly how to keep the cost of the structures, parking structures, down and build over them. The really multi-use structure, starting most likely with transportation, plus the sandwich of uses at various levels, is one very clear mode of achieving the very dense urban experience.

MR. KOSTRITSKY. We must consider land cost. Hal and Jim Rouse have been building shopping centers horizontally, and that is out; it is too expensive. And if we are projecting this

into the future, land costs will not be lower. So, for example, why isn't the school on top of this area; and here is the public structure, and it doesn't pay any taxes and in the long run is taking an extremely valuable piece of land which could be used otherwise, and which goes into the central core.

DEAN SERT. I agree and sympathize with multi-use. Really it is a matter of scale and attitude. I know there is more interchange when people are the same class, the same kind, but here you get interchange at different strata. There is a regional and city link which is today becoming increasingly rare. We believe the people coming together has a lot to do with this, and if we leave the people in the ghettos and have the man down on Wall Street take his car from out of the suburbs, there is nothing to make these two people come close. Here we have a city that has an open feeder outside the tremendous parking and shopping facilities for a region, and up to 300,000 people living around that area. An opportunity is given to those 300,000 to mix with the people living right across that center. This is a way the center is conceived for this possible mixing, but if people don't want to mix, it is a hopeless case.

Washington insisted that the majority of the people living here should be low and middle income class, that they should have something they could afford and that the majority should live in walk-up structures. We do have some elevators and some people living in the higher structures, and we then say, See how cheaply you can build these structures that are very similar to the ones on the ground level. The only difference, of course, is that there is a certain complication in putting one over the other, but in details they would be very much the same; these elevated corridors are like the sidewalks on the street. This is something we would like to explore further.

That is why, with this study, we haven't got to the very high densities that you people are talking about, and that is why we haven't gotten into this superimposing of functions. Also, we didn't want to make it a one-architect city, and that is why we broke it into areas to allow considerable amounts of liberty in the designing of the different segments. It isn't planned that in the future the architect will be working on one building or two buildings but that he will be working on larger areas, and each of these areas will have a certain unity.

MR. KOSTRITSKY. One other point on form. It seems to me that we have been neglecting form on this whole thing. I have been trying to bring in the form of the school and how that might generate a visual situation which would be quite different from the K to 6 and K to 8 which I see scattered around here.

Another thing, a major element of this plan is the circulation system, and I see about 80 per cent of it visually has just no relation to movement and interaction with people except in the downtown core. I could see that it touches on that school up there, it touches up here, but generally you are riding in the open countryside and it is not affecting the form itself. In Montreal, you know, you were in buildings, and you were in an urban experience. You could, let's say, have taken that as an element of creating the form that you were dealing with and put your buildings and your schools and all the facilities around this major loop system. It is isolated; and yet it is an important vehicle which is supposedly tying the community

together.

MRS. DE SOUZA SANTOS. Which brings up the whole idea of the objective of the educational city.

MR. KOSTRITSKY. You are right.

CHAIRMAN. Except, of course, the really important points are the nodes of the station, where you get off.

FROM THE FLOOR. The station is only one point.

MR. MITCHELL. Could I answer a question which George Kostritsky brought up yesterday? He raised the question of the alternative possibilities. Let me make a speculation of a project of such a scale, within the time limits of one year. We get a basic network diagram of just the performance requirements to begin the project, and it is ten man-years of work. So this is in fact an amalgamation of a set of deductive and a set of inductive factors.

Some of the deductive things have been discussed. One of the inductive things was the idea of the central core, and I am sure if it started off with you, the general approach would be to go one story, keep it flat, keep it low, you know, and keep it cheap. No offense. [Laughter.]

MR. IMUS. I might have built two floors, but that is all.

MR. MITCHELL. One of the things that came from this study were broad discussions of the kinds of things that ought to happen humanely within this thing, and the first reaction was: well, it becomes impossible. Then all of a sudden it becomes or starts to become a little more possible, and the resulting form, the structure, turns out to be, well, in the same order of magnitude as the bloody two-story. If we stuck deductively to what we should have done (and being pinched and pressed to look at other things), the alternatives came up. I think one of the advantages of taking such a severe departure is to pinch, and I think traditionally there are lots of points which pinched and said nobody would ever discuss that or question that. The way I look at the cost of the building, that building, we can build it as cheap as building a two-story building and wind up with great globs of fun things that would never be possible, for just a little extra effort. I wonder whether, given reasonable amounts of time, one can't begin to play these two methods on other things within the city and begin to pinch other things and make the breakthroughs as Dean Sert said, that are going to make it possible.

This is a marvelous thing about science; you sit in the laboratory for years and years and you do all the experiments, and unless you make the jump and put things together in different new ways, you are not going to do it, and you go paranoid. I think in putting it together in new ways, it implies new forms and it has been successful, and I think this is the discussion of it.

CHAIRMAN. On this very good note I would like to close.

REGIONAL CONTEXT
Economic Efficiency

William W. Nash, Jr., Chairman

Daniel Brand
Siegfried Breuning
Alexander Ganz
Walter Isard
Frederick McLaughlin, Jr.

CHAIRMAN. Ladies and gentlemen, the format we are going to follow this morning will be extremely informal. I have asked Alexander Ganz if he would give us some background on the Boston region, particularly the economic and population characteristics that are emerging in this area. Then, I should like to begin a discussion on the realistic probabilities for economic support to a moderate income community and what form it might have to take. Particularly, I'd like to identify those kinds of research issues that may be involved and useful in terms of a continuation of this project, if it should go on.

Among the regional factors that I am particularly interested in, obviously, transportation economics will be a major component. After Alexander Ganz has given us some of the background, I'd like to get both Alex and Siegfried to talk about the transportation factors that might be involved. Then we will throw it open, first to the panel and then to the audience, and then back to the panel again for a real consideration of these economic factors.

ALEXANDER GANZ. I think a good way of focussing the kind of information that we have is to address it to two questions: why a New Town in the Boston region? and what significance does the potential for a New Town in the Boston region have for the rest of the country?

I'd like to speak to these two questions in terms of the perspectives for growth in the Boston region; the potential role of the New Town in industry's growth; special factors favoring the particular location that has been suggested by the Harvard study; and finally, the significance of the Boston study for New Town development in the country as a whole.

The Boston regional perspective can be succinctly described. This is a slower-growing region in respect to the nation, but over the next quarter of a century it is expected to have 1.2 million additional people (roughly, a one-third growth). Projections of the Metropopitan Area Planning Council suggest that by 1990 this Boston regional area may have 4,700,000 inhabitants. The most notable aspect will be the concentration of growth in the 18- to 44-year age group. This has great significance for residence location preference.

This expanding population in the Boston region may expect to enjoy a substantial upgrading of their incomes. Over these 25 years, per capita income might be expected to rise by two-thirds. At the present time roughly 17 percent of our households have incomes of $15,000 and over in the Boston region. By 1990, we may expect that 45 percent of our households will have incomes of $15,000 and over. This upward shift of income of households would again have particular relevance to residence location preference, and to new housing and new community development.

A third major aspect of the emerging Boston region is the expectation that in this 25-year

period, output of goods and services will roughly double, but there will be a fundamental change in industrial structure, favoring service activities. Manufacturing will increase, but at a slower rate; but this slower rate will reflect, in fact, a structural change in manufacturing, favoring instruments and machinery, with continued declines in the more traditional activities.

We may expect that there will be a continued, very substantial suburbanization of both the location of economic activity and the location of population. With respect to population, the expectation is that by 1990 the core cities would contain only 15 percent of the population of the region, in comparison with roughly one-third at the present time. By 1990, the expectation is that the core area of the Boston region, comprising Boston and seven other surrounding small towns, would account for only one-fourth of the employment of the region. At the present time, it accounts for almost one-half. The shift in economic activity responds to the revolution in technology, in manufacturing, in trade and transport, which favors an outside-central city location, with one-story plant layouts, close to expressways.

This is, roughly, the outline of the possible region of the future. It suggests the exacerbation of an important problem that we have at the present time; that is, the dichotomy in job location and residence location affecting low income household. The manufacturing and trade jobs which low income households might ordinarily compete for are going to the outside-core area. But the mobility of low income households is limited, and they cannot easily follow these jobs to the suburbs.

I should mention that even with the two-thirds expected increase in the personal income levels per capita we may still have some 400,000 poverty households in the Boston region in 1990. These households may have a more difficult time with respect to jobs, because the jobs they might ordinarily compete for are moving out.

It is in this context that we have one of the potential roles of our New Town. It can provide, first of all, a part of the region's growth, a substantial part of which will be in the southern part of the region. The New Town could provide a living area, with superior amenities, for this group.

Secondly, a New Town could provide a superior environment, superior jobs, and superior housing for lower income households, an alternative to the much more difficult job of attempting to bring employment into the ghetto.

Furthermore, a New Town that would be made up of low income and moderate income households would aid the potential economic viability of the City of Boston by making it possible for Boston to adapt to an evolving situation of stable population, stable employment, by upgrading of its economy through the expansion of service activities.

Factors favoring the particular location of the new community include the following. First of all, this is the direction of the largest growth area of the Boston region; the southern part of the region is growing at twice the rate of the northern area. It is at the location of two of the major transport routes in the northeast area, Route 95, the Northeast Highway, and Route 495, the Circumferential. The problem of land assembly is less difficult than in other parts of the region.

What does such a new community project in the Boston region signify for the rest of the country. If a new community can have an important role in a slower-growing region, where the problem of land assembly is relatively difficult, it can have a larger role in a more rapidly growing region of the country, where the problem of land assembly is not constrained by the particular limitations here in the Boston region. In effect, a successful prototype and a successful new community in the Boston region would pave the way for new community development elsewhere in the country.

CHAIRMAN. This gives us some idea of the background. One of the questions that occurred to me is, would this New Town necessarily compete with the existing communities? I think you have answered it, partly. From what you have said, there is enough growth anticipated in the southern areas so that probably it would not compete directly but might rather strengthen some of the other places.

FREDERICK McLAUGHLIN JR. I'd like to reinforce the question, because, in several previous attempts to get Federal aid, there were many who felt that this was going to sap the economic life of an area and also have an effect upon the middle and maybe even the upper income economic life. I think this project answers the objections.

But I was still wondering whether, if this is going to be a low to moderate income group, based on a lot of subsidy, what the reaction is going to be from the other towns outside of Boston? Are they going to oppose it on a political rather than an economic basis, on the grounds grounds that we are pumping Federal resources into one place, rather than spreading them around the area.

CHAIRMAN. I think this is certainly a concern. When we talk about the amount of subsidy which will be required for community facilities, cash debentures, housing support, through vastly expanded grant subsidy programs, all this would have to be paralleled by a continuation of the kind of traditional support some of these suburban towns expect. On the other hand, I think it is perfectly possible that they may be delighted with the idea that we are going to concentrate lower to moderate income in the new city and relieve some of the pressures that they might otherwise have, of re-zoning for exclusion zoning and things like that. Right now, I am on a committee that has been trying to revise the planning and zoning legislation in the state; this is one of the things that we are very much concerned with. We have already specified that we would like to make sure that any plans that are prepared for the suburban communities make explicit statements about what kind of population they are after, in terms of income, in terms of race, and a whole series of things like that, so pressures can be brought to bear. Obviously, this kind of New Town would make this kind of legislation a little less noxious in terms of its political viability.

The other thing I would think that we are curious about is the comment that Alex made on the growing hiatus between jobs and the place of residence for low income poeple. I was just wondering whether, in the transportation studies you have done, Dan and Siegfried, you have come up with any thought that the transportation that is being built will be accessible to low income families and under what terms. In other words, is it possible for them to stay in the center city and commute to jobs, or is the social desirability of this kind of moderate income com-

munity reinforced.

DANIEL BRAND. In the work we have been doing we have tested hypotheses relating to the future distributions or growth development patterns of population by employment; population by income groups versus the kinds of transportation improvements and investments which are going on today; for instance, highway improvements. We find that the low income groups cannot, in effect, take advantage of the highway improvements which are going on. Indeed, they are not taking advantage of the highway improvements relative to the ability of the middle and higher income groups to take advantage of these. This is a logical hypothesis, which has been nicely confirmed by statistical evidence at hand. We find that the middle income groups are definitely moving in relation to the increases in accessibility. The high income groups do not seem to be influenced in such a proportion by the improvements in highway accessibility because they are perhaps looking for other kinds of amenities, other kinds of benefits. But it would appear that the major transportation investments that are going on and that have gone on are not benefiting the poor.

CHAIRMAN. There is no theoretical obstacle to trying to encourage a low or moderate income family to use the highways, provided you subsidize the automobiles.

SIEGFRIED BREUNING. I think the situation is even more striking than you have said. I think almost all of our transportation is subsidy from the poor to the rich, even mass transportation. If you look at the transit lines, you will find that the heavy usage which is usually associated with the ghetto in the downtown area, is lucrative from the point of view of paying its way. The deficit occurs in the feeder lines and in the lower volume of the low density areas. This is usually where the higher income people live. So, in effect, the poor subsidize the rich even in the transportation system for the poor.

If you consider the question of providing an automobile for people who are living in the ghetto, and you consider a second-hand car, you can show very quickly that the high operating cost occurs in the second-hand car rather than in the new vehicles. The resale value, which is relatively low for these cars, is partially offset by the operating costs. Sometimes these people put in very close to the same amount as the rich man puts in, though he gets a much better car and much more reliable service to boot. In essence, even here the people, unwittingly, are getting poorer service and are in a way supporting the rich people who are getting a resale value for the vehicle in the first place.

There are some interesting solutions to this. Simply, just changing the fare structure on the mass transit system could do wonders. Instead of having a 25-cent equal fare, charge the people in the outlying areas with the low density service accordingly. Or, if you would force automobile manufacturers to provide a five- or ten-year warranty, obviously, the price of the car would go up, but the serviceability costs in later use would go down, so the rich people ---that's us---would have to pay more for the vehicle. We would be giving up the subsidy we are now getting from the second user of the car.

CHAIRMAN. I was going to reinforce this by referring to the added problems and costs of insurance rates in the ghetto. There is a

much higher insurance rate. A lot of people in Roxbury have to go to Lloyd's of London to get insurance, and they have to pay about double the normal insurance that is required in this state. Presumably, this would be one advantage of the new community, with adequate police protection.

WALTER ISARD. The New Town that is envisaged gets around both the subsidization of public transportation by the poor and their low accessibility to things. It has a mass transit system which is so low in terms of capital costs and operating costs, that it might be feasible just to make it a free operation. And the New Town tends to discourage auto traffic.

In terms of a number of other municipal services besides transportation the compact design reduces the burden of the low income population, in turn reducing the subsidy that they are currently affording the high income groups.

CHAIRMAN. Walter, could you also comment on the kinds of economic activities that you think might be attracted to the area? There would be some kinds of more moderate-skilled or unskilled jobs that would develop in the area. But would these be sufficient for a population of this size, given the kind of target composition suggested?

MR. ISARD. Let's say, in the manufacturing trades, we would have in mind something in terms of 30,000 in basic manufacturing? We might aim to have perhaps five to ten percent of that 30,000 in basic manufacturing for the low income, low skilled population. Packaging materials are a growing segment of the national economy. We have envisaged that there might well be two or three plants down there employing a hundred people, and a large fraction of this would be the production worker.

The population growth that is anticipated is, I think, a little low; but anyway, obviously, many of these food process trades must grow, the ones that are market-oriented. We see no reason why you couldn't have a plant of 50 or 75 down there, working in the complex. Also, we envisage places like Raytheon or RCA or Philco and although it is true that most of these would be the high income, Ph.D. type of labor, one could still expect that there would be a number of jobs available. We envisage a major hospital service center, not for special problems of health but for chronic problems, serving the whole metropolitan region of Boston and Providence. Here is an area where a low income, low-skilled population could be easily upgraded to these levels. In addition, there would be opportunities for at least 10 percent in the commercial activities.

MR. McLAUGHLIN. I was impressed by Mr. Leven's discussion, yesterday, on education and how easy it is to educate people. I didn't realize this. I think one mistake was in failing to determine whether we could train anybody to operate a fairly sophisticated machine in three weeks. Have you accounted for this in your projections?

CHAIRMAN. Obviously, one of the major things behind the new community is the development of a feasible manpower training program. What we would like, and I think it is absolutely necessary given our target, is to have some kind of coordination between manpower training through the educational programs (which are supposed to be community-wide) and industrial development activities. We would be trying to attract industrial development activities on the basis of a reasonable guarantee of a trained labor

force to meet their needs, and they could take a role, as Raytheon and Avco have, in determining those needs.

Frankly the statement that Jerry made yesterday, a number of us are not sure that it is absolutely valid. We certainly think it is a promising avenue of exploration. But I must say we have not built in the assumption about the immediate training of people. We are assuming as a fact, given the kind of job opportunities and the probable kinds of skills required, that in the early days---and this is what makes transportation and location particularly important---there would be quite a bit of cross-commutation. If I remember rightly, the assumption was that there would be 70 percent out and 30 percent stay in the early stages, and in the later years it would be reversed.

MR. BRAND. The idea of having the service center before the residential center would tend to achieve this self-sufficiency rather early. I think self-sufficiency and viability are very important and deep questions. One of the basic design concepts for the new community was that the number of workers commuting out would be exactly balanced by the number of workers coming in. Therefore, the most important trip distribution or travel forecasting assumption that had to be made in order to size the facilities and to determine the costs of the facilities was: how many people would actually live and work in the community. The figure of 70 percent was chosen, based on an analysis of commuting patterns from existing high-density residential areas in the Boston region. There are areas of somewhat comparable conditions. These are downtown Boston, Brockton, and Lowell. 62 percent of the people living in downtown Boston work in downtown Boston.

The higher figure of 70 percent was chosen for the new community, because it was felt that there would be a better system of internal transportation and also because the lack of employment opportunities near downtown Boston would be such as to keep them in the community.

MR. ISARD. As some of you may recognize, there have been two approaches to this economic base. One, of the planning team that Mr. Nash has headed, and the other of the Regional Science group which started earlier in the game but has not been as active in the later stages. The Regional Science group took the more traditional economic approach, which ought to be discarded; but let me present it for what it is worth in terms of political implementation.

We decided to try to justify everything in terms of dollars and cents, profitability. So when we said, "How many jobs could there be for the low-income, low-skilled population," we only looked at sure things. Although we had in mind the possibility that training programs would be very successful, we weren't banking on it. But if they do turn out to be successful, then the New Town could accommodate a larger fraction.

Secondly, a real basic issue in our planning, is whether or not a major shopping center should come in there in the beginning. We have not had time to do a thorough economic study to look at this. So the Regional Science group took the conservative approach and said, "Probably it is best to allow that major shopping center to develop later after there has been a substantial population development in the community, which then could add to the regional population to provide an adequate market for the major shopping center."

We had in mind that the low-income, low-skilled population that would come to the New Town at the early stages would be composed of those directly employed in the new plants, such as packaging materials and food processing, and that they would largely have to be subsidized. The housing would have to be subsidized to get them started, and smaller commercial activities would have to be subsidized in order to provide them with the necessary services.

We thought that the public subsidization could be at least partly financed if the Federal government or state government would come in and purchase extensive holdings of land at, say, $500 an acre, its maximum value now. Of course, that land is going to be worth $10,000 or $15,000 per acre in ten years. So we were relying upon some governmental authority to justify some of the initial public subsidization of this low income, unskilled population.

CHAIRMAN. On the question of the regional shopping center, the city planning approach was one of trying to see what, optimistically, might be done by clever salesmanship, by management, and things of that sort. What we did was to identify a primary and secondary market area around the new community and take the population increment that was anticipated in that area, analyze the disposable income to try to see what kind of potential markets there might be for shopping, and then---again, it is a heroic assumption---assume that if people really got in and competed for that piece of market that they would in fact be able to capture enough to build a market or regional center of some considerable scale down there.

There were a couple of things that we ran across that seemed to indicate that successful competition might come about. A number of the large department store chains, most notably Sears Roebuck, were thinking about locating in this area. Also, if you look at the Boston metropolitan area, there has been a tendency to have this kind of regional activity or shopping center develop at certain locations. So far, they have been intermediate between Route 128 and 495. Now that 495 has been projected out there, a lot of people are considering future shopping centers and moving out in that direction. So we do think there is a possibility for an ingenious, active enterprise, interested in promoting such a center, to do the thing in the beginning.

The whole approach is predicated upon what needs to be done in the way of public actions, private enthusiasm, legal changes, and everything else, to realize this new community. We have been using Walter's study more or less as a basis to identify what could happen without any particular level of subsidy and, in contrast, what level of subsidy might be required to realize our ends; what form of subsidy; what kind of programs.

Whatever kind of development corporation or municipal corporation is created, if it is going to succeed, it is going to have to have flexibility, have to adapt the New Town design continually in terms of what actually develops; how successful people are in their educational program; how successful people are in their industrial development.

The one thing we definitely have begun to see in this new community is that there is going to have to be a major set of subsidies in order to achieve the goals. We know right now that we could build a traditional new community there

for perhaps 75,000 people. You could get some kind of lower density new community, which would still be a viable alternative to subdivisions, in the Boston metropolitan area. But it is this leap of faith to the 200,000 of the moderate income that is going to require a lot more substantial effort.

FROM THE FLOOR. Is 200,000 a magic number? Is this a deliberate, rational choice or is it simply an assumption as a workable figure?

CHAIRMAN. It is a rational assumption.

MR. ISARD. The advantages of a compact community were going to be those of scale economies. There would be a tremendously low transportation cost because it is compact. There would be, in terms of municipal service, water, sewerage, sanitation and so on, tremendous economies. So we could have shot for maybe 500,000 or even a million, because if we have 500,000 or a million we could put the shopping center in right away, and we would not have to have the public subsidy. But 200,000 in one place, one-sixth or seventh or eighth of the growth population of the Boston region, is a large fraction. One would tend to say, maybe one-fifteenth or one-sixteenth of the population. But getting down to 100,000 starts interfering with your effort to get the major scale economies. So the 200,000 figure comes out as a compromise, as something which could be justified.

FROM THE FLOOR. Over what time span?

CHAIRMAN. The time span that is considered for the development of this population is roughly 20 years, comparable to the 25-year growth anticipated of 1.2 million to 5.5 million. Neal Mitchell said that from the point of view of economies in providing housing, along his particular style, it would make a lot more sense to get that whole population there in five years. However, I think all of us felt that getting that many people to move from the Boston metropolitan area in a five-year period into a New Town was questionable, particularly the moderate income population.

FROM THE FLOOR. Twenty-five years seems to me a long period. Was there much discussion about the extent to which you could compress the time, or was this another working assumption?

CHAIRMAN. It was a working assumption. What we have been trying to do is to establish a set of contours that we could look at and speculate about. In other words, it is the usual architectural design process, where you create a beast as strawman and then you step back and say, "Is this reasonable? If not, why not? And where should we look into things? What kinds of devices should we undertake to protect ourselves?"

The 20 years was also predicated on the capacity of the building industry in the area actually to begin to bring the many kinds of facilities and services that are necessary for a new community into this particular place.

I remember some years ago when Governor Furcolo decided, in his infinite wisdom, to have an accelerated highway program to integrate the state system in four years. The one thing that quickly became evident was that, if you were going to do it, you were going to have to hire engineers from all over the country, in order to get the thing done in that amount of time. While a five-year period is feasible with housing, there are other elements in here that

would demand a longer time period. It seemed to us to be reasonable to set this at 20 years.

MR. McLAUGHLIN. I think in a five-year period you lose the flexibility that you are talking about.

CHAIRMAN. This is another problem. I asked Neal about this, and he said it would be perfectly possible, at somewhat higher cost, to do the housing over a 15-year period.

One thing I have been quite curious about and still have no satisfactory answer for, is this problem of whether a moderate income population would move to this area and at what rate. We have had a series of studies. I did one myself some time ago. Over the 20-year span we are talking about, just by displacement alone, by highway construction, urban renewal, private activity, et cetera, we can figure that people are going to be forced to move on the order of 250,000; that is, from the central areas. This does not include voluntary moves.

MR. BREUNING. Besides, that 1.2 million of growth has to be put somewhere. If you are successful in holding down the present neighborhoods, you might persuade the new population to move out there more easily than try to move people out of established neighborhoods.

FROM THE FLOOR. Are we talking about a hypothetical situation here in the new city in this area?

CHAIRMAN. Yes.

FROM THE FLOOR. I understand that there has been quite a bit of activity down there already. Sears Roebuck has either purchased or optioned some land there. Another gentleman has taken an option on the other side, and other people have generated an interest from an economic point of view. There is also some increased interest in or activity in housing of the middle income groups in that area. I thought I would inject that thought here.

CHAIRMAN. Mr. Bissell is with the FHA, so he knows about these things.

MR. BRAND. With respect to the economic viability, we estimated about 8 percent of the residents of this new community would be commuting to downtown Boston. This only 8 percent, but it does represent an economic input to the community.

CHAIRMAN. One thing that we have not really discussed at all are some of the cost revenue studies that we have been doing. Actually, we have taken two approaches in the New Community Project; one, the more or less traditional arithmetic approach. We have had an engineer consultant provide us with unit cost figures, and then we figured out exactly what the infrastructure would cost, what the housing would cost on the basis of architecture, structural figures, and so on. The infrastructure figure we came up with was roughly $250-million, if I remember rightly. This particular input does justify the higher density. It is, on the unit cost basis, quite considerably less than it would be for a more spread-out community with the same kind of services.

The other thing we did was to develop what might be called an accounting model, which is already placed upon tapes for computer analysis, using the unit-cost figures that are based upon area by density. By this latter method, rather

than hand-compute any alternative design, what we are able to do is immediately posit that we are going to lower density in one area and raise it in another, and, within the time that it takes to run the thing off the computer, we can get a complete print-out on the varying kinds of cost figures that might result from that change in the design.

Both techniques, incidentally, have much the same failing; the accounting model has perhaps a greater failing in this regard. That is, that the unit-cost figures that are employed are necessarily, in the case of engineering estimates, based on average experience. In the case of the accounting model, the average observed experience over the past years has, of course, been updated to take into account changes in construction costs.

Of course, the final costs of any of these things are going to be determined ultimately by the amount of monies that are asked in the construction bids. The techniques are fine to give us some idea of comparability, but we are not deceived that they are the final answers. Rather, they give us an order of magnitude.

The major point I would like to stress is that we do feel that this kind of high density community would in fact lower a great number of costs. It would not eliminate the need for some kind of construction subsidy for these facilities.

FROM THE FLOOR. In the questions of costs, do any costs go up with increase in density?

CHAIRMAN. There are some costs that we think will go up. For example, it is very possible that the unit fire protection cost may go up because of the kinds of equipment that will be necessary to take care of the higher-rise units. Also, there may be an increase in costs for police protection, although we are hoping to offset this by a greater involvement of citizens in routine protection activities, traffic crossings and such. Instead of having a policeman at $8,000, perhaps you might be able to have a neighborhood, indigenous professional. We have not costed out these things. The large costs I have alluded to have been mostly lump-sum costs.

We do know that school costs are going to be considerably above what they are now because of the special qualities of this community. At the present time, the average school cost is something on the order of $1,500 per pupil per year. These are anticipated to go up to $2,500. If we go through with the special-content curriculum, there will be a greater cost there. If we have a higher pupil-teacher ratio, there will be higher cost. Education costs right now in a city of this size are 27 or 28 percent of the local budget. We are figuring maybe as high as 50 percent in this new community. That, of course, doesn't have anything to do with density.

MR. McLAUGHLIN. May I raise a question? Despite Professor Galbraith's plea for design standing on its own feet and not being priced, it seems to me the temper of the times means you do have to price things. If you can show savings in a New Town approach to a development, you are one leg up on the political atmosphere. I wonder if we are able to price out economies of good design, the unit of design, the unit of management, the ability to schedule new construction. Is there any chance of doing that, other than just unit-cost on construction alone?

CHAIRMAN. There has been an attempt at that, but admittedly, it is still on the unit-cost basis. There have been assumptions about how much it would cost per square foot of residential structure. This is an issue that needs further work.

MR. BREUNING. A few years ago, at MIT, we did a New Town development. It was 100,000 people in one square mile, with the same density, utilizing some islands off Boston Harbor. Some of these same problems came up. We used high-rise housing. It was required that there be subsidy. At that time, the students decided to make this an alternative for suburban living for middle and high income people. We felt it was a desirable goal to attract these people back into town, that it would upgrade the town. This was much closer to downtown Boston. But the economies of scale in the infrastructure were worked out and were quite substantial, in spite of the fact that this was what you might call a plug-in city.

FROM THE FLOOR. It seems to me that there are two parts to this subsidy: one is capital investment, which will be made in the metropolitan area anyway for this volume of people somewhere; the second, is that which your particular population make-up has to have. Is that not merely a kind of locational shift of a subsidy? They are being subsidized where they are anyway. My question is, assuming my introduction is correct, have you done any arithmetic on the relative subsidy?

CHAIRMAN. You are saying, "Already, we provide rent subsidies in Roxbury and other areas; already we provide subsidies for the infrastructure." What you'd like to know is, if we provide for this quantum of population at the new community, what would be the potential reduction in subsidies elsewhere, and, therefore, the net subsidy?

FROM THE FLOOR. I was asking this really for two reasons: one, because I am curious; two, I think, as an auditor hearing your reports, that your emphasis on the massive subsidy requirements may be somewhat exaggerated. You may be leaning over backwards in your emphasis on this.

CHAIRMAN. Yes, we are.

MR. BREUNING. One thing that underlies this is the question of subsidy in general. What are we doing with the subsidy? Why do we give subsidies? Why do we give welfare? Why does the state pride itself in the fact that the largest share of its funds is being used for the welfare chunk? What we really would like to do is to make these people self-sufficient so that we don't have to give them welfare. What we would like to do is give them a better environment and hope that the better environment will help them develop the motivation and capability and whatever else it takes to become self-sufficient.

One of the problems we have today in the ghetto is that we have deprived the ghetto-dwellers of transportation. If you consider public transportation today, you note very clearly that anyone relying on public transportation today is much worse off than he was a generation ago. With the automobile, we have better transportation for those who can use it, but for those who can't use it we have worse transportation. We have, essentially, segregation by transportation. If we move out to this town, we may overcome some of that problem.

Let's look at the other side of the coin. What created the industries on Route 128? This was a clear case of industry following the population; namely, in this case, the industry was looking for the kinds of workers that they needed most, which were the highly skilled, professional theoriticians. But in moving out to 128, these industries had to give up accessibility to the low-skilled labor. If you need proof of this, you look at some of the Federal agencies. I understand that NASA now is going to move back into Washington because of transportation problems. Here, again, we find that the low-income people are not as moveable to the outlying jobs. If you create this new town on 495, you probably would give a much better labor supply to people not only in the packaging business but also to those who have a mixed demand for skilled labor and unskilled labor.

I am suggesting that these kinds of industries ought to look very carefully and see if they don't see a role for them in supporting some of these people and, therefore, providing at least part of the subsidy. I wouldn't be a bit surprised if the plant locating in the vicinity couldn't get these people at better conditions and at better pay than they now have on 128.

MR. BRAND. The public transportation of the future, at least in communities like this, may be people's two feet. One of the dramatic reductions in the infrastructure costs were in the roadway costs. We calculated at 60 percent of people walking to work trips; 15 percent, approximately, using cars; and 25 percent using transit. Comparably, in downtown Boston, two-thirds of the people walk to work; 20 percent take their cars; and 13 percent take transit. We lowered the number of walkers slightly because the work-places in the new community would not be distributed so uniformly as they are in downtown Boston, and we reversed the percentages for auto and transit; that is, more transit in the new community and less auto, as opposed to the reverse situation in downtown Boston, because of the better system within the new community.

FROM THE FLOOR. I wonder what kind of influence you expect automation to have on the working population, the low-grade job worker, of the community.

CHAIRMAN. We have considered that, but not as deeply as we should.

MR. ISARD. You heard Neal Mitchell yesterday talk about there being perhaps as much as six hours a day of recreation time. In fact, he felt that in time the work day would be something like five or six hours.

On the other hand, take a look at the hospital services required. There is probably no automation there that is sufficient to reduce the labor force.

FROM THE FLOOR. But we will, I am afraid, see the hospitals more and more concentrated in the downtown area.

MR. ISARD. We find a high degree of specialized complex in the downtown Boston area. But the kind of hospitals we are thinking about are more for chronic illness, for the older population, and this area is more appropriate for them.

As you cut down the work day to five hours, you increase the labor force by almost 40 percent, so that, on the one hand, while automation reduces the number of jobs in certain industries,

in other areas, especially the service trades, it does not reduce but rather increases the number of jobs as the work day becomes shorter.

FROM THE FLOOR. The unskilled or poorly skilled are limited by two factors: first, their inability to finance their transportation to their job; secondly, their lack of education or their inability to qualify for the job. Do the jobs in the New Town really match the abilities of these people whom you are concerned about in the low and poorly skilled labor?

MR. ISARD. There will be another set of jobs, of course, over in the industrial districts, which would be about five to ten miles away from the center. The question then arises, how would the low-income, low-skilled, and even the medium-income and high-skilled population get there. As you know, the compact town, we say, is a hypothesis. A subhypothesis is that you provide mass transit in the right way and that it will be full used. So, in the design, there is going to be a mass transit bus system which will leave from connecting points and take the worker to his job in ten minutes or so. It will be efficiently designed; the buses will have their own lanes so that there will be no traffic problem involved. If this mass transit bus system is not utilized, we fall back upon providing additional lanes for automobiles to the industrial district.

This will involve additional costs, but we are able to incorporate both sets of possibilities into the design. We'd like to play around with both sets, and not with the assumption that it is not possible to have a large mass transit system in a new community.

MR. BRAND. In just looking at the numbers--we have some 51,000 jobs in local manufacturing and non-manufacturing categories within the new community, and some 22,000 basic manufacturing jobs in the industrial site two to three to five miles away. The basic manufacturing would attract employment outside the new community. The split is such that more people would be able to support the idea of the people walking to work within the new community since the trips-supply characteristics of the very short walk would be very favorable. I do feel it would support the high percentage walking.

FROM THE FLOOR. It seems to me that we are involved in a question of national policy. We are dealing with people and their jobs and their ability eventually to stand on their own two feet, we hope. If a massive subsidy is going to be spent somewhere, it seems to me that we should ask, should it not be spent in the central city, where the jobs are already, or a good many of them are, for people of this ability?

CHAIRMAN. The problem is, that while there have been many jobs available in these categories in the central city, they are diminishing in relative number. The outward movement of jobs has made us consider the opportunities for people of moderate income, low-skilled, to follow the jobs.

FROM THE FLOOR. The jobs are there, but they are all scattered out. Would your investment strategy be better if it were strung out along the perimeter rather than concentrating on one centralized community?

MR. BREUNING. If I understand you correctly, this is a trade-off question. Do you put the residential area in one area where you get the economics of scale and then rely on transportation along this route, or do you put these resi-

dential areas in small clusters along, say, 128? The difficulty with the latter solution is the fact that 128 is an automobile-dependent kind of spread, so that you cannot possibly walk--not by American standards, anyway--to the job. So you are really not achieving anything by spreading out these people; the transportation is the real difficulty. You actually rely on other than foot transportation, the automobile or the bus, so you might as well get the economics of scale of the residential cluster.

While I have the floor, I might as well make another comment. I can see three possible developments for this new community. One is an inner-oriented one. Other people don't care about the new community; Boston would just as soon wash its hands of what is happening out there. You then get a development which would be self-sustaining. You would get whatever industry you could; you would get a shopping center. You would develop a New Town much along the lines of what was formerly called a company town. I don't think that is anything we want nor is it a desirable or attractive solution in the long run.

A second development is the solution that we have talked about. It is a town that initially has a substantial amount of self-sustaining activities but is eventually moving along Route 495 to seek out opportunities for work and so forth.

The third solution, which is not as crazy as it might sound initially, is that this town becomes a stepping stone in the northeast corridor region. About 70 per cent of the transportation out of Logan Airport is within the northeast corridor. Airports are getting filled up very quickly, and if we achieve a vertical take-off or short take-off in landing craft, then we will get a dispersal of airports. So we would most likely get a Logan, one in the north, one in the west, and one in the south. Then the area of the New Town becomes very attractive to high income groups of people and to the industry that goes around this, and also perhaps to low-income labor, a group we need in order to do effective, economic business. The industry along 128 may shift slowly into and around this particular locale. This town would thus become a nucleus around which a lot of other activities would concentrate and develop.

FROM THE FLOOR. I wonder if you would clarify your assumptions about technological development. You have a 20-year time span for economic growth, but you have really assumed a 10-year span for technological growth and development, perhaps only 5 years. I'd like to ask Professor Isard if this particular type of infrastructure would still be appropriate for a population of 200,000, even though other technological advancement might take place in the 20 years.

MR. ISARD. Are you suggesting that it might be more efficient to have a still larger city?

FROM THE FLOOR. There might be a pull in that direction, yes.

MR. ISARD. Whenever anyone raises a question of technological advances, I say, "Well, the best thing you can do is to go to the engineers who are working on the frontiers." Here's Siegfried Breuning, who is working on transportation systems, so we incorporate whatever we can of his knowledge into our design. When we come down to sanitation, sanitary sewer systems, for example, we know that Professor Fair, here at Harvard, is doing some very new exploratory work. Bill Nash is thinking of using the computer to try to predict cost revenues

with respect to technology.

All we can do is explore; no one really knows the final direction of technological advancement. I would say a 200,000 city would be large enough to obtain the major economies that are with us now and are likely to come.

MR. BREUNING. I was just itching to talk about automated transportation. Technologically, I don't think it is a problem. If anybody around here would give me the necessary funding, which is a couple of millions initially, I think we could demonstrate the feasibility of automated transportation.

The automated transportation would be a dual-mode automobile that would operate manually on the outlying areas, or whenever you wanted to drive, and that would operate automatically on a limited access guideway. The advantages of this kind of system would be that you would get away from the congestion, because your channel capacity would be something in the order of five to ten times of what it is now. You would get away from the parking problems in congested areas, because you could send the vehicle out without a driver, to outlying areas, for low-cost storage, or home for that matter. You would get better safety, because you would have to have much higher standards of design. You would get away from smog, because you would introduce electric drive in the high density areas. And, if you have a sufficiently large automated system, you would get access to everything. You could send a five- or six-year old on an automated vehicle trip by himself, which you would probably not do as readily on a public transportation system. You can put a child in the car and give the distance and shut the door, and he would be off.

However, we felt this was not likely to happen in this New Town environment, because of the problems of developing a taste for it. We felt that where this is likely to happen is in the more well-to-do areas where people would reach for this for the status-symbol benefits.

Also, even if we could move as fast as we think we can, it would take five years before we had a pilot program and ten years before we had a fairly well-established procedure. This delay is not for technological reasons but because we must know how will people react; how do you evaluate it; how do you take care of the various political implementation problems, and so forth. It will be more like 20 years before this kind of system will be seriously considered for a town like this.

CHAIRMAN. There is one thing that we have been alluding to frequently this morning, but I don't think we have given adequate discussion to it; that is, the question of the kind of regional constraints that you might have in developing a new community like this. For instance, Walter has pointed out that a hospital in this location would be a tremendous support to the new community. All of us realize that. At the same time, I have been taking a somewhat bearish attitude because here in the Boston area we have begun to develop an areawide hospital concept, right now. Eventually, they would like to have an area health services plan prepared for the Boston Metropolitan Area, which would consider the location of all facilities, the distribution of services, the quality of services, the levels of support, and so on. This is being supported by the Health Act of 1966.

This would mean that having a hospital constructed at the new community site would be deter-

mined on a regional basis, and that, much as the new community might want to aspire to or compete for a hospital, unless in the wisdom of this area health plan this was the proper location for care, then it might not actually have the support of the Federal government in the area.

I think there are many other things that come within this same question. For example, one of the large constraints that we have in the region is heavy dependence upon town government. Most communities have had part of the intracommunity costs picked up by the town, which is eventually recouped through fees for services. Obviously the town government is not going to be able to provide the infrastructure costs. That is one of the reasons we talked of the necessity for subsidy. We have not specified where this subsidy is going to come from. We have certain things available from the Federal Government, but we think the state would probably have to play some major role, which in turn means they are going to have to consider the eastern half of the region of Massachusetts, let's say, as a large region. In that case, what role does each one of these legal members, the towns and cities in this area, have to play in developing the style of life of the people in the area? I think our decisions are going to have to be supported in a regional context and that there will inevitably be a series of exogenous forces, such as Federal, state, a combination of groups of towns, that will have to take up the question of whether they want a new community.

While we are aware of these constraints, I don't think we have really been able to come to grips with them. There has been no time to explore these possibilities with a whole series of people who may eventually become instrumental in deciding whether this new community will come about or not.

FROM THE FLOOR. What experience or information have you gotten from your study of the British New Town experiment?

CHAIRMAN NASH. We have explored the strategy of development of these New Towns. One thing that is true in most of the British New Towns, as I understand it, is that the Crown Corporation likes to maintain some kind of control so that it can recoup increases in land values which have resulted from urbanization of a particular place. The other thing is that there has been a great deal of hesitation about going into non-competitive areas where the local people, the local town government or whatever instrument there is, has some objection to having this kind of density of occupancy going into that area.

FROM THE FLOOR. We have been told--I don't know whether it is true--that the New Towns are basically at this point self-sufficient, and that the Mark II are much more bold. The question is, Why not go into a Mark II thing as opposed to going through this? One wonders whether there isn't a lot of data that you could draw from, because they are not so different in many respects.

CHAIRMAN. There are certain critical differences that I think prevail. On the positive side, the economic activities have been moving to new communities because of the dispersion pattern. Dispersion is now being more accepted. On the other hand, there is a great deal more control over British industrial activities by the central government than there would be here, so they can begin to influence and encourage this trend in Britain more successfully than we can in our kind of governmental institution.

MR. ISARD. Let me continue your response to the question. I think we are much more concerned here with developing a methodology for New Town planning and design. I raised one methodological question here, which you don't find at all in any of the British New Town kind of thinking; that is, what is the cost of various targets? Secondly, we are looking upon compact design as an hypothesis, but it is an important part of our thinking. We are asking the hypothetical question, What is there to a compact town? We want to check this particular locality for it.

But the elements of the compact design could be reconstituted and reformulated to reclaim some land within the core of the metropolitan region. For example, you could reclaim some of the Boston Harbor land, and you could put the whole compact design hypothesis there and try it out; or you might use if effectively in Manhattan. Or we might start off in our first phase with some urban land that is not being effectively utilized. We might put up our first housing units, and gradually take over other localities and build up a new compact town within an existing structure.

So the compact town hypothesis is quite a flexible one--for the Boston region, the New York region, or elsewhere. We are now trying it out. We are experimenting. We are exploring. The idea of putting the cost revenue computations on to computers--these things give us a tremendous amount of flexibility to try it out for different situations.

In other words, we are trying to put more emphasis on the methodology. We don't have any final solutions, but we want to see if we can't develop procedures so that we can do more effective work in a particular situation.

CHAIRMAN. We concede that this New Community Project is just one alternative, where we are trying to develop the methodology. If there are going to be New Towns for the country, there are going to have to be a whole series of experiments, with different assumptions about the nature of the population, the kind of innovations, the density, and a whole series of things like that. In this matter of innovation, we are quite aware that if you have an innovated educational system, innovated police and fire protection, innovated mass transportation facilities that we have never had before, innovated housing that perhaps could be erected by individuals, and a whole series of things, they may actually serve to deter the population from coming there, except for the same reasons they go to Disneyland; that is, to see what is going on. But they may feel that to live there is something else again, particularly the moderate income population. So we would like to develop the cost revenue in the model that we have and the kind of techniques that we are developing, so that we can plug in different assumptions about innovation, about density, about technology, and so on, and test them out for different areas, not only the Boston Metropolitan Area but in fact throughout the country. The same would be true in terms of the form of local government, and a whole series of other things.

The British New Town experiment after the war was mostly based on the fact that the war damage required that there be reconstruction somewhere, and why not in New Towns. The New Town approach or new community approach in this country was initiated for different reasons. Then, of course, there are different legal and economic factors at work. Therefore, I don't

know that there is a lot to be learned from the British New Town experience, because I don't know that it is immediately duplicable for our particular purposes over here.

FROM THE FLOOR. To what degree is the economic existence of the New Town tied to the availability of adjacent industries or manufacturing processes? That is, how much is it true today, along 128, where the industry is, that the industry draws its employees from the adjacent communities?

MR. GANZ. An amazing transformation has been taking place in the Boston region. Several decades ago Lowell and Brocton were self-sufficient, important industrial centers in their own right. Now they are primarily bedroom communities, serving industries that are springing up just outside this area. Since the end of World War II, population growth in the Lowell and Brockton area has been twice as rapid as employment growth. This reflects the change in industrial structure in the Boston region as well as the suburbanization of industry and the suburbanization of residential location.

MR. BRAND. The 128 industries are characterized by a very long journey to work and very high usage of automobiles.

FROM THE FLOOR. What I was driving at is the fact that we change jobs in our type of life very often; at least, some of us do. However, we don't change residences necessarily at the same rate. Is it so vital for the new community to have an adjacent industry? People may start in that industry, but in the course of a few years, they will be working elsewhere because they have been given a better opportunity.

CHAIRMAN. One thing we are assuming is that, by having this new community in the metropolitan core, there will be opportunity for people living in the new community to travel greater distances to places of work.

MR. GANZ. I am afraid to tie too much into the necessity of adjacent industry.

CHAIRMAN. We had not felt it was absolutely essential to have a job for everyone in the new community nor that it be a completely self-sufficient town, because it is within the metropolitan context.

I am not going to summarize all that we have said or have not said, but I will just list very briefly some of the considerations which require further study:

1. What are the economies that may result from the rate of construction in the infrastructure itself?

2. What are the added costs or lessened costs for services that would result from the compact design, particularly with the kinds of aspirations we have?

3. What is the relative subsidy or net subsidy for this population in the new community? Looking at it on a metropolitan basis, what are the possible reductions of subsidy if the new community is a success in terms of its educational activities, its manpower training and so on? What might we see falling off categorically for housing, for social welfare, and so on?

4. The last question I have is the relationship of technological advance to the rate of

development of the system. I think this question needs more study.

FROM THE FLOOR. Wouldn't it be more logical to assume that at least one-third of the community would be Negro rather than one-tenth of the community as you first mentioned?

CHAIRMAN. I don't know whether it would be more logical or not. At the present time, in the Boston Metropolitan Area, there is approximately 8 per cent Negro population; in Boston itself, there is 12 per cent; in the low income groups, it is closer to 20 per cent.

The reason we set it at least at 10 per cent, is because of the distance this town was from the kind of community we see in a ghetto in Roxbury. Would people be willing to become pioneers in the sense of moving to this outlying community and away from their families, their churches, and other institutions? That is somewhat questionable. Therefore, we set it at ten per cent, a figure higher than the metropolitan area's but lower than Boston's.

In the report, in order to assure that there would not be a transfer of the ghetto from Roxbury into the area, we suggested that we should take some kind of action, which would be to have an honest and open discussion with some of the leaders of the community, to find out what we might be able to do in the way of a distribution strategy to provide for more balanced and integrated population in the new community. Obviously, it is going to be an open occupancy community.

FROM THE FLOOR. Would there be a succession of alternatives? Have we selected this particular target because it opens up some other ideas?

CHAIRMAN. That is the whole purpose. Should this project continue, what we intend to do is to increasingly identify what the gaps are between these targets and what might be considered reasonable in terms of a whole series of assumptions, then try to project programs that narrow the gap, and then, also, take a look at those programs to find out whether they are realistic.

FROM THE FLOOR. What difference is there between the carrot you offer to the residents here and that offered to people who would be moving into a New Town in England?

CHAIRMAN. It's a bunch of carrots. Among other things, we would be providing them hopefully with a much better dwelling unit, a subsidized dwelling unit. Whether this is in the form of rent subsidies or subsidy to the dwelling unit or subsidy to the individual in terms of rent certificates is still up in the air. The educational system, we hope, as outlined by Jerry Leven, would be nonpareil. We would try to design a municipal government which will allow for a great deal more participation on the part of the people in the government itself. Obviously, also, there would be certain kinds of technological innovations, such as a mass transit system that is truly viable and not one where you have to walk 15 or 20 blocks in order to get to a line. I could go along like this. The intensity of this kind of activity would be considerably greater than in the British New Towns.

FROM THE FLOOR. In England, subsidized housing was not available within the existing city. If you wanted public housing, you had to go to a New Town to get it. I don't think that's the

case here.

CHAIRMAN. No, it is not.

I thank you all for your attendance.

Donald A. Kennedy, Chairman

Robert Gutman
William Hammer
Bernard Kramer
Jeremy Leven
Donald Schon
Jerzy Soltan

CHAIRMAN. One of our concerns, while we were thinking about this panel discussion today, was about the level of abstraction. We would like to make every effort during the discussion today to bring things down to concrete examples. It is very easy in this area, with a lot of very strong feeling and ideological interest, to get way up in the stratosphere of intellectual debate.

To start us today, I would like to ask Jeremy to talk a little bit (specifically and concretely, by example) about what he has worked through in the educational area. We have spoken of this community as having an extremely important focus towards education for the people that live in it. This is, by nature, a novelty.

JEREMY LEVEN. So that this might have some sort of fabric I think Eric might tell us what the community is and how it has been designed. Then we can say how the rest of the things will fit into it, using that as a fabric.

ERIC PAGE DOEPKE (Student Aide to the Panel). I will review the plan as it has been embodied in terms of education so that we might provide

a city for learning. We became involved in developing ideas of what needs people have--- not lower class, not upper class, but just people ---at different positions on the life cycle. This, we thought, was important in design work. Most of our clients could be located and studied further and will be this summer.

Our clients will be people who will be displaced by public action and will come largely from the Boston and Providence areas, although there is speculation that the stimulus of a New Town would tend to pull people from the South and from other metropolitan areas.

[The community plan was outlined, using visual material. Much of this is in the Summary Report or was covered in the panel on Physical Form. Mr. Page-Doepke went on to describe the educational system within the overall community structure.]

MR. DOEPKE. The high school is in segments, called Special Contents Centers, which are located at transit stops in different communities. A student going to high school at the age of 12 or 13 (or it may vary even more) does not go in terms of just his own district, with the same people that are there. As the program of education is organized, he will be mixing in with other students.

The preparation for this high school experience is really the backbone of the educational system that Jeremy outlined yesterday. At Level I, at the Guidance Learning Centers, a young student will be confronted with a guidance counselor who will not just consider education as 9 to 5, or 9 to 3, but will begin to look after the child's health needs and his other specific needs as they can be identified. You are going to have these professionals working with children at the very early stages of the community.

From zero to three years old day care centers and the opportunity for mothers to learn how to take care of their children are very important. Some models are the Head Start curricula. They find that certain portions of the curriculum are very meaningful, especially where you are bringing children and mothers together for training. These activities could take place in the day care centers which are in close proximity to the home, as would be the tot lots, the day care center's nursery and kindergarten. These would serve 1,000 people.

As you go to a higher level, you get larger play spaces. The children are able to walk further from their homes and don't need as much supervision in their recreation and educational activity. The outside of a residential area is oriented always to open space. Here are the guidance centers, the Level Two stage. The open space is larger than any at the very fine-grain Level One situation. These begin to serve 4,000 people.

The total Level Three community is from 16,000 to 20,000 people. Level III activities are centered at one point, along with commercial activities, the high school segment, and the transit stop which leads to the central core.

For our study it was very important to come up with a design and very important to have a measure from the beginning. So we costed all the educational structure. At Minnesota there is an opposite approach. They have more time, and they are spending a lot of time this year just trying to get their feet wet and talk about the ideas. We, on the other hand, decided to

develop a design along with our ideas. Inasmuch as our ideas are embodied in the design, we have been successful. What we have tried to do at this point is to take a shot at what it will look like. People get horrified and think "they have got it all solved," but we certainly don't, and we wouldn't be here if we did.

FROM THE FLOOR. How much difference do you assume there will be between one cluster of 4,000 people in one side of the city and a similar one on the other, in which people will all have the same income? What difference will it make to switch the children to another community for schooling?

MR. DOEPKE. The community will achieve a mix due to the type of people that we are going to bring there---as Don said yesterday, the helpers and the helpless. There will be 30 to 40 percent professional service jobs there dealing in health, education, and so on. You will have different incomes and different classes. Furthermore, we have people of three different extractions coming. There will be Irish, Italians, and Portuguese being displaced around Boston.

FROM THE FLOOR. Do you mean to say all the Irish would live in one community and all the Italians in another?

MR. DOEPKE. That is up to them.

CHAIRMAN. No, it is not up to them.

MR. DOEPKE. You can't put a gun on them.

CHAIRMAN. It's a point of residential diversity, a specific point of policy; you mix them. From the word "go".

FROM THE FLOOR. That means a quota system then.

CHAIRMAN. No, it does not mean a quota system; it means a system of variety and diversity and creating some effort to counteract the natural tendency to cluster and create ghettos.

FROM THE FLOOR. Why do you switch them from one group to another?

CHAIRMAN. Because the educational system centers around that minirail system, with very different kinds of sub-areas. You have a split-up educational content in each center, so that those who are particularly interested in the natural or the biological sciences have got to go to a particular place to engage in certain kinds of research or educational activity, those interested in mathematics to another, and so forth.

FROM THE FLOOR. I can see it in the high school, but I sure as hell can't see it at the very early age.

MR. DOEPKE. Many children in a city that I have worked with haven't found out how to use the buses yet; they also haven't found out how to get out of their neighborhood. They have limited horizons. Because this is a compact community, you would find a lot more things going on a lot closer to you. We have such diversity of services within a limited area that you begin to have more movement, more interest, more types of things happening.

CHAIRMAN. Let's take youngsters. Let's take a new-born baby and a mother and father. This is their first child. Where do they live? Describe to us, or respond to any kind of ques-

tion that anybody has, about what happens in the educational mode.

MR. DOEPKE. A mother and child living in a housing unit here are just off this spine of rather high density, where most of the services are and their main walk, when the mother wants to go shopping. When the child is three years old and plays very close to the house, he is able to, because there will be small vacant lots available here, and the mother can also supervise. The nursery-kindergarten will also be right within this housing area. We planned that these services would not require special buildings but would be accomodated within the housing fabric. An elder woman could run a kindergarten; however the educational system works, it could be locked in here.

FROM THE FLOOR. What if the kid comes home some day and say , "Mommy, all my friends called me a 'spik' today." And mommy says, "All right; we are going to move over to the other side of town where they won't call you a spik, because everybody is a spik there." At that point, do you say, "No, you can't move over there"? Isn't that the point where the family moves back to Boston?

CHAIRMAN. You are saying that the way in which people solve inter-personal conflicts is by moving geographically. I realize it is one of the ways, but there are other ways, and we would hope that it would be possible in the way this thing is originally settled and launched to open up alternatives to that solution.

FROM THE FLOOR. What are they? This is where the thing falls down, it seems to me.

FROM THE FLOOR. The key question is: How did they happen to get to that particular location and move in there---on the same system as we now work, or are you going to have a rental agent who is a psychologist, who assigns them to an area so it won't be over-populated by one group?

CHAIRMAN. Marketing, in our traditional way of doing it---general advertising, looking in the Sunday newspaper, getting in touch with the real estate agent, et cetera---will be subject to certain modification, if we take seriously the proposal that this community is going to have some new wrinkles in it. One of the most crucial new wrinkles about it is educational, and if there is an educational point about teaching people something about how to learn to get along with each other and how to handle relationships with each other without naming people names and throwing bricks at each other and creating civil unrest and rebellion, then this is the way we are hoping to approach it. It is a combination of physical arrangement of housing, putting different sizes and levels of complexity and cost together, and, along with it, a very tough set of social relationships, educational relationships, orientation, and explanation and persuasion relationships.

I say a difficult set, because, what we are doing is riding against the reaction that this gentleman just raised, that the answer typically is to move. "I don't get along with the next-door neighbor; I'm going to move out." If that goes too fast in any neighborhood, you know that neighborhood isn't going to do a very constructive job for anybody who lives in it.

FROM THE FLOOR. We want to mix the students in the schools so that they will find that other students are the same as they are, when you have already mixed them in the community. Isn't there a conflict here?

MR. DOEPKE. I think the idea is to confront people with other people. If people are confronted and are active together working on something in school and moving through the city, they begin to understand more about the other fellow.

CHAIRMAN. See, how do we normally learn? Starting as youngsters, we learn the identity of the people in the household where we reside; then we learn the identity of the people who live right next door that we play with in the back yard; then, we go to school or nursery school or we follow mother in the car to the local grocery shop or we visit relatives, we visit friends of the parents. That's the way the process of learning the identity of more and more different kinds of people occurs. This city gives an opportunity to exploit that particular pattern.

FROM THE FLOOR. You've got a problem. Your assumption starts with stability. Here, however, you suddenly move people into a totally flexible situation and you are going to end up with disorientation. How are you going to overcome this initial problem of stability, establishing a sense of security, of belonging in one particular area, versus jumping from that into the learning experience of contacting other people and letting your horizons grow?

DONALD SCHON. This is precisely the issue that bothers me. I think your comment goes to the roots of the planning process. One of the issues is, To what extent is it possible to plan a community of this kind if by that you mean that you have a pretty clear image of it at the start but also that planning takes place while the train is running?

I think your question leads to another set of questions: what is it that it's possible to incorporate in the process, the management, the social resources of the town, and to what extent is that influenced by physical layout that lets you then cope with the instability that you can't now anticipate effectively?

If we look at Columbia, the thing you notice is all the pressures that have begun to be brought to bear on Rowse that he could not, at the outset, adequately anticipate; for example, the life insurance companies closing in on him to produce income in ways that he hadn't thought he would have to do, which made him get on the ground quicker than he thought he would which, in turn, forced him to bring in a kind of person he didn't think he was going to bring in. It seems to me that any plan which doesn't say there will be such events is not the right sort of plan. The plan has got to be a meter plan, if you like, that lets you deal effectively with unanticipated events and unstable events.

FROM THE FLOOR. Also, let's go one step further and say, All right, you have one element of stability which you are already postulating; this is the physical environment which you are going to create. How about using the same approach that is used for the economic phase of this total community---making it a regional center and going out from that for each individual area so that you have the sense of belonging, of physical identification, and then letting the flexible and very, very tough social adaptation emerge from that.

ROBERT GUTMAN. I would like to make two comments on this. First of all, it seems to me there are certain precedents for dealing with this problem in this program. The English New Towns, in trying to establish stability in the neighborhoods to begin with, have, in recent years,

allocated certain parts of the towns to populations coming from particular segments of the established community. They will open up a particular area of the town and say only people from a certain segment or class now are eligible to move into it. By doing that they in effect increase the probability that communication networks will already be established among some of the incoming residents, so you have at least a good basis for the stability. We don't have a tradition of doing that in this country, but it might be one thing that the implementation people would like to consider.

Another thing that the English do now is to have "arrivals offices", as they call them, appointed for each segment of the New Town. These arrivals offices spend their full time helping these communication networks to become established and encourage stability in that way.

BERNARD KRAMER. All of these plans, including this one, are based fundamentally on the notion of paternalism and on the notion of an elite that is capable, really of delving into the inner mysteries of life and organization and providing a plan in a right way.

You talk about the planning process. Couldn't the people you might want to market it to later be involved in a serious way right from the beginning? In your class, did you have any community people working on these things with you, learning as they went along? It seems to me that, if you don't do that, then you build in all the difficulties that have been mentioned. Of course, if you do it, you suffer the danger of losing time.

FROM THE FLOOR. And the plan.

MR. DOEPKE. I'll say again, it horrifies everybody when you put a plan up, but by the very fact of the physical design, you have to make a statement.

MR. KRAMER. Why can't you have people in on making that statement?

MR. DOEPKE. We did; we consider this pre-planning phase and how we might set up part of the community down in the existing community before people are going to be displaced by highways or be a new city project, and we also worked with people at multi-service centers, both in Brockton and down in Roxbury, to see what they are planning.

MR. KRAMER. Where are they?

MR. DOEPKE. They were invited, but this isn't their kind of meeting, I don't think. If it was, they would be here.

FROM THE FLOOR. We could go to them.

FROM THE FLOOR. It is awfully hard for a complete layman---it's hard enough for us professionals---to imagine, with what we are designing, exactly how it's going to be. It must be very hard for people with very little education to understand what these lines represent.

WILLIAM HAMMER. I'd like to respond to that. I was down in Resurrection City this week, and there people were arriving, poor, without education and so forth. They would arrive, and they would receive a whole bunch of these prefabricated A frames and plywood 4 x 8 panels, and they would put up their own shack. Some of the schemes down there were ingenious. There were some people who were actually building these

very luxurious two-level shacks with sundecks. It was absolutely fantastic.

I asked one, I said, "Do they really keep the rain out?" He siad, "That depends on how good you make it." I think we have to give so many more of these people credit for what they've got and what they can do.

I am in complete disagreement with Professor Galbraith's talk yesterday. I think that is the kind of paternalism we want to get away from, and I think this scheme was very conscientious in trying to get away from it, but they had to show a finished product.

FROM THE FLOOR. Even so, Resurrection City is at one level, or one of the Puerto Rican slums is at somewhat the same level, with the people getting together and somehow building it themselves and things come out someway. Very nice. In terms of scale and so forth. But, my God, you've got sewers; you have got to think of a thousand things and do it three years ahead. It isn't the same kind of spontaneous thing.

MR. HAMMER. They had to worry about fire lanes in Resurrection City though it was on a much smaller scale. The framework was there, and the people worked within that framework and had a great deal of flexibility, I think that is possible.

MR. SCHON. I think what you are now beginning to do is lay out the ground rules of the criteria of a planning process, and I think we have got two so far. One of them says there are certain elements of structure that are very expensive and hard to change, like sewers. Then the issue becomes, how is that compatible with the kind of flexibility that lets you respond to changes in housing, education, walkways, and the like; in other words, how do you design an infrastructure, in which you have a heavy commitment, in such a way as to permit the maximum possible flexibility in everything else? The second part of the planning process is how you design the planning itself in such a way that people without sophistication can envisage possibilities and options that aren't usual to them and make choices that they don't ordinarily have the opportunity to make. That is as significant for the end result as the cross-section of a physical design.

MR. KRAMER. I think that people have to, and can, become sophisticated about things like sewerage. I want to give a quick example.

In 1962, people who live in Boston will remember that Columbia Point had a little child who was killed by a dump truck running back and forth to the big open dumping area. This led to a mothers' march, which ended up in closing the dump. I watched for six months, or maybe more, the process by which the people, in the community, who were poor people, learned about every aspect of garbage and sewerage and burning and open-dump and incinerators and Spectacle Island and the State House and the Mayor's office and every bloody thing you can think of; they learned a great deal about the problem of disposal of waste.

Well, they became sophisticated. The process of being engaged in the question itself leads to sophistication, at all levels. It's only with this kind of engagement and involvement that you can build a bank of goodwill among the people themselves who will populate the area, that they can stand the strains that will be coming, naturally and normally, in a community

life.

FROM THE FLOOR. I think the educational goal which was first stated---a city for learning---is very exciting. But all I heard about was elementary schools and high schools. But a city has to have some kind of common bond.

Resurrection City has a purpose, and a lot of things can be tolerated, inconveniences and problems, as you go ahead to complete your purpose. Here it seems to me there's no common purpose except as "a city is for learning." If that is really the ideal, if that is the way you conceptualize the city, then you have to have something more than provide elementary schools.

It's not the young children that we have to be concerned about first, but the grownups who are moving in. They have to relearn values and attitudes and philosophies that you have to build education in for, and I think these are the kinds of things we'd like to hear more about.

MR. HAMMER. I think that that is a very good question. In a city like this, the whole notion of education is to incorporate the parents. Through education, one can begin to deal with a whole range of community and social problems. The Columbia Point story is significant, because here the entire community, which is very apathetic, coalesced around a crisis. After the crisis subsided, the community sort of fell back. But then they put in a community health center with the Medical School of Tufts University, and they tried to incorporate community participation. This was almost like a crisis substitute; it did give the people something to participate in. They could feel that something was happening to them; their lot was becoming better.

I think the goals of the educational system are much broader than just teaching children. I think they are for this sort of crisis substitution or involvement of the community.

MR. LEVEN. The question to ask, as far as the whole educational system is concerned, is not what kind of schools we should have but whether we should have anything which is in the conventional sense considered a school.

The idea of there being elementary schools or high schools is not quite accurate. That concept doesn't exist. Rather, there is a home base, which is called the Guidance Learning Center. The system is based on the fact that a child needs to work with a specific adviser at all times, to help plan his program, to test things out, to try things. Initially, he will need a base close to home for this. Then he will get used to going away from home and will use, for the rest of his career in the educational community, the Guidance Center. Each Guidance Learning Center will serve 3,000 to 4,000 people, or a thousand families.

CHAIRMAN. How big is the staff?

MR. LEVEN. A hundred to a hundred and fifty. One person per 25 children. The guidance counselor will have people who are two, three, four months old, or one, two, three, or four years old---to whom he will devote less time---six to thirteen---which will be a larger function of his time---less people, less time to people of greater age.

That movement to the Guidance Learning Center occurs gradually, there is no such thing as this child is now six years old, it is September of that year, he now moves into the Guidance

Learning Center, the way you do with the usual elementary school.

As he is able to move away from a situation very close to home, as he is able to form more stable relationships, as he increases his social and motor skills, he moves into the Guidance Learning Center which has in it skilled teaching machines for learning all kinds of things---reading, writing, computational skills. These are used both by the adults and by the children in a continual intermixed on-going basis.

In the Guidance Learning Center there are also many varied activities. There are educational modules which originate from specialized content centers, with educational equipment in them. The child comes in and says, "You know, I was watching something on television the other day about Greeks; I'd really like to know what it was really like, what the people were like." The guide, within five minutes or less, can get a module which will plug in as an integral part of the Guidance Center.

CHAIRMAN. You mean you brought him a Greek?

MR. LEVEN. He's a Greek immediately.

FROM THE FLOOR. A Greek unit.

MR. LEVEN. He changes his clothes, he talks Greek.

There is a major problem with the system. The specialized content centers each devoted to a particular discipline, are planned in this way in order to: 1) concentrate the facilities and save money; 2) take all the personnel interested in a specific discipline and put them in one building to save personnel; and 3) permit dialogue between people interested in a particular thing. We want to hire people on the basis of how dedicated they are to the profession and how well they can import this enthusiasm to other people.

Now, many teachers---with all due respect to members of the panel---are hired on the basis of publications, and such, which provide no real test of their ability to excite children, communicate with them, stimulate them, to get people interested.

MR. KRAMER. Where are these guys going to live?

MR. LEVEN. Within the community. Some of them would live, actually, within the buildings of the people.

MR. KRAMER. You see, if you want to get highly-committed people, specialized people, you don't have enough total population here to generate this. You will have to draw from outside. You will have to get them from Cambridge, from Roxbury.

FROM THE FLOOR. Teachers will have to imported.

MR. LEVEN. I would like to get rid of two concepts for the educational system---schools and teachers. The typical teacher now performs many functions which can be replaced or divided so that they make some sense. With the skilled teaching machines, with the computational things, you don't need a professionally trained teacher with two years in MAT standing there while a kid is working a machine. A parent can do this and involve himself with the machine.and with the teaching process going on. You need someone who is good at social skills, at getting children together, getting them to communicate with each

other. That is an entirely different type of person.

The burden that is put on a teacher now of planning the curriculum is something which can be designed much better by people specifically interested in designing a curriculum in a curricular research center. So, the function of a teacher becomes more that of promoting communication among children, of helping to set a tone, advising, directing, or supervising children for safety reasons.

FROM THE FLOOR. Actually, this is a medieval system of education you are proposing.

MR. LEVEN. We are going back to better traditions.

JERZY SOLTAN. I am myself involved in learning; but I cannot stomach the notion of a city for learning. A city that functions well, a city for living, is always a city for learning. Let me resort to some primary notions that the United Nations developed. They are applied in all advisory functions of the United Nations when they go to particular underdeveloped countries.

All new communities, in highly developed or underdeveloped, countries have to cope with extremely basic human needs and sometimes with highly sophisticated human needs.

The United Nations normally strongly advises the planners, the urban designers, to start with an overall idea of the city and establish very strongly what can be definitely controlled by the community. This begins with extremely basic activities, water and sewerage. Then circulation tion, communication, and community facilities, organized by the community, could be plugged in with different levels of community participation but in which already the individual would have more to say. The system of education is integrated into the whole system. Then the whole spectrum is covered, and we finish up with areas, domains, in which the individual expresses himself as much as possible and also has privacy, an individual life, so the two extremes are outlined.

I am a member of an architectural team, and it has been discussed that the basic issue is how to create architectural situations in which the individual somehow would be framed so as not to transgress some basic order, but to move within limits that would be the unity and variety, unitas and varietas, of the old Romans.

CHAIRMAN. I think that is a very excellent statement. It almost drives one to think of the possibility of recruiting a group of people to go to a specific site, like Resurrection City or this particular location, and set up a field office---in effect, have a constant walking over the land and in and out of the drafting room and in and out of one group discussion after another. And it would be much more exciting to run a two-day conference without as much detail in plans as we have here.

MR. SOLTAN. It is a dilemma without details. We would say there is nothing here. But now, the details are there, and I begin to grumble with too many details.

FFROM THE FLOOR. We have always got this problem of being out of phase. The design process cannot be done by discussion. It eventually has to come out of analyzing the needs of the situation by perhaps talking with the people in

the community right on location and then coming back and modifying these plans.

This plan is purely a vehicle. What it boils down to is, How does one initiate this? How do we actually go and start this community so that it can grow and give the sense of stability which then enables people to widen their horizons and come up with discussions like this?

FROM THE FLOOR. I have some pragmatic questions. The first is, How are these people forced to move into a city in public housing? You can impose integration because people need housing. Is this going to be true here? Otherwise, you are going to have to have very persuasive salesmen to break them up with their own kind.

The second is, where are you going to find all these paragons who are going to teach these children? They have to be like God; they are going to take control of individual living in this place. Are you the paragon to do this? Are you going to dictate the way these people live with each other? Are you going to dictate their entire growing process from birth to death?

If you can find the paragon, I think that's wonderful. I don't like the public school system either, but we can't find good teachers anywhere, and you are asking for them to be more than teachers.

MR. LEVEN. Actually, I am asking them to be less than teachers.

CHAIRMAN. You see, he is dividing up what we normally place upon the shoulders of the teacher, as we are already doing in the medical field, where you are breaking up what used to be the basic nursing functions.

FROM THE FLOOR. This concentrates the social function on those who have some insight into the individual and who then will not have to worry about the mechanics of teaching.

MR. LEVEN. There is a real problem as far as implementation goes, this really great conflict between community process, involvement of people, and direction to the people. It's agreed now through research that children profit best by being given alternatives, a chance to explore, a chance to discover. The fact is, however, that when you take a child who hasn't had this background and you bring him into an unstructured system and you say, "We're interested in your ideas; we want to hear what you have to say. You work with us in developing the community," they say, "Oh, great; oh, wonderful. Yes, we want to do this." Then suddenly, it starts to bog down because there is no rigid structure for them to fall into to help them out. Unless there is very specific direction, they have problems.

Gradually, as they're brought along and are given more confidence, they start to move out, and then you've got a workable system. But immediate involvement really creates a tremendous amount of anxiety among the children and can do more damage than good sometimes.

FROM THE FLOOR. Did you decide at the outset of this wonderful experiment on the degree of choice and the degree of imposed systems in this city? Did you say, Certain areas of human life are up to the individual and certain areas he has to conform to? Is there a philosophy here of choice and obedience?

CHAIRMAN. I have a very serious problem with that question. Maybe it's the difference between being a social scientist and being trained in

the architectural field. I think that if you actually examine the way we work and the way we operate in communities that it's very hard to specify the range of areas in which we have freedom and the areas where we have just the reverse. I think there is a clear area for argument. For example, I have had some very delightful arguments with Bill Nash about this; he feels very strongly that the sewer system, by golly, should be designed by the sewer engineers and not the general populace---they are not to be allowed to get their hands at it.

As far as I am concerned, I think the opposite; I think that, as Bernie Kramer says, people can learn a great deal about sewerage. It does seem to me that there is, as Bernie Kramer said earlier, a very strong sense of paternalism that has marked the field of urban design so that the field ends up in making great pretty-color full diagrams that never find their way into reality in full form.

FROM THE FLOOR. I understand that, but I want to know whether you professors and the students had made a decision on this basis before you started and whether it's all control or all choice. I am getting the opinion now that it is pretty nearly all control. I think I heard that there were little areas of vacant lots. That might be the extent to which the inhabitants have a choice as to what they do, that, and within the four walls of their residences. Do they have any choices of transportation? Do they have any choices of school? Do they have any choices of health care? and all the other things you haven't gotten to yet?

FROM THE FLOOR. There seems to be a great deal of concern for the paternalism in this plan. The questions seem to say that the city, as it is today is maybe a freer thing; is it?

FROM THE FLOOR. I don't think the city today is perfect, but we, at present, have some free choice. There is an assumption here that we planners know better than the rest of the world how people should live. I just wondered whether the rest of the world agrees with you. You are proposing to dictate how people are to live next to each other and how they are going to go to school. I am not saying that your ideas are wrong or that the concept of the schooling isn't lovely, but I am just wondering where you are going to get your customers. Maybe I would move in, but do those people from Dorchester or wherever agree with you? How are you going to persuade them to move in?

FROM THE FLOOR (Carl Steinitz). May I change the subject? I am very curious about the attitude of this study to work, on three grounds. One, if this is to be a low-income area, presumably work is an integral reason for the people going out there. Second, work is assumed to have certain stabilizing factors. One's friends tend to be those he works with (a stronger factor even than residential proximity). Third, work is really one of the most interesting things from the point of view of education. I am very curious as to why there is total absence of work places in this area.

CHAIRMAN. Dirty working places.

FROM THE FLOOR (Carl Steinitz). Dirty work in particular.

MR. SOLTAN. It is oriented to learning. [Laughter.]

FROM THE FLOOR. I heard some remarks about the mother and child. Have we gotten rid of the

father? Are the women going to live here and be subsidized by the government and the men just come in from work occasionally and try to get the children out of this school and get a chance to talk to them? Is this a family situation or isn't it?

MR. LEVEN. Basically, the idea is to involve the entire family in the learning experience at all times. What happens is: the child is away from the home a great amount of the time from the age of six on up. The educational experiences can be shared by the parents and the child, learning together. If the adults are interested in improving themselves, in learning things, they can do this along with the children. The family involvement becomes more, not less. That is the first point.

The second point is that education does not occur within one community only. I like to use the example that if you took the money in city funds, state funds, individual income taxes, and Federal funds that is now being used to send a child through school, you could take 150 children on a jet plane around the world for a year. They'd be with their families, experiencing travel, other cultures, et cetera.

CHAIRMAN. Let me ask Dr. Kramer to describe his proposal for getting rid of the educational establishment and handling the problem of work.

MR. KRAMER. Just a quick comment on that. What education will look like 100 years from now is possibly the thing that would give us a clue to what's being talked about here, but we are thinking about five and ten years, and that's why we are having difficulty. In 100 or 200 years, something like that, the segregation between the economics sector and the educational sector will vanish, and they will be merged into each other. But that is an altogether different story, and really it's just too much to get into.

I want to raise this question: As I listened to all of this, as I watch all of this stuff, it seems to me, to put it very bluntly, this is totally irrelevant to the guts of the urban situation in this era of history. I venture to say that if we placed in this audience the people of Roxbury, of Harlem, wherever you want to pick, they would quickly, immediately, say, "It's ridiculous; forget about it." This is not responsive to the real situation in the cities of the country and the world today. I would say that the answer you should have come to when you first had this problem was to say that to build a new city as a response to the urban situation is a mistake.

CHAIRMAN. Why?

MR. KRAMER. The assumption here is that the present situation in the cities is hopeless. That is the fundamental assumption of a new community.

FROM THE FLOOR. No.

CHAIRMAN. Not true; not at all true.

FROM THE FLOOR. This is just one proposal; that is all it is, an idea.

FROM THE FLOOR. It's also one alternative. This is a new city. Another alternative, which is just as viable, is the rebuilding of the present cities or their expansion.

FROM THE FLOOR. I would like to ask the philosopher or the sociologist, if you pick out any one of these people and ask them where they

would like to live, would they live in the city or would they go out and buy themselves an acre in the country?

CHAIRMAN. Neal Mitchell told me yesterday about a game he played with a woman in Roxbury... [Laughter] I think maybe I'd better finish this ...in which he said: "Here are a series of blocks and here's a layout which is in effect the city. Now, would you begin to show me what kind of a house you'd like?" She puts the house down on a little block and puts a little green yard around it with a picket fence in front and a few trees and a back yard, and he says, "All right. Now, the next thing for you to do is to inform the people who live upstairs and beside you in the building where you now live and where we are playing this game that they have got to move out." She says, "What do you mean?" She began to swear at him. He said, "Because, let me show you..." What you have to show is the thing that planners know, that there are finite resources. It seems to me that this kind of experience and this kind of game in simulation technique is an extremely valuable tool in this adult education process for all of us who are trying to plan, in any context.

MR. SCHON. The occupation I am now engaged in involves work with blocks in the cities. They are, of course, not monolithic, lots of different views, so you get lots of people who respond about the kind of house they want to live in, where they want to go on the basis of catching up to the next socio-economic level. Some want to live where you live. There are also a lot of people who tend to be young and militant and bushy-tailed, who see it differently and who say: "We don't care about integration; we don't care about suburban living. What we want is viable, self-contained, self-regulated black communities that we run. (And that can be basically anywhere.) But we want to do it." Between those two extremes, there are lots of alternatives and, if we think about blacks alone, the problem is a marketing problem. Nobody can tell you what he wants that he doesn't have and that somebody else doesn't have. He can only tell you what he's irritated about, or what he's got, or his aspiration for what you have that he doesn't have. But he can be helped to visualize what he doesn't have, and a lot of the work that we have done in places like Waterbury, Harlem, and Watts, has been in showing the options, the possibilities. How do you make it vivid to people?

I think it's quite clear that you can do that so people can be helped. The question going through my mind the last few minutes is: With whom do you do this work? Who are the potential clients or users with whom you work? How do you choose them? And I think that dictates two quite different sorts of strategy about how to go about a New Town.

Two extremes come to mind: Reston and Brook Farm. Reston was a pre-package; they market it like a product. They design the product, lay the product out, and say, "Here it is; who wants to come and buy?" Brook Farm said, as has been said around this room, that people can be helped to visualize what they might want that they don't have, but you've got to work with them ahead of time. People can learn to work out a conflict but you need to work with them ahead of time so they build a relationship that later can be made to work on the site.

Teachers might come, except they had better be involved in the process and have some control over the design. What that says is, it's a

kind of Kibbutz; it's a Brook Farm. You gather your corps together and then that corps generates enough community feeling to be able to move in during the touch, unstable period you were describing.

It seems to me there are therefore two radically different sorts of strategy. If it is a marketing strategy, then the issues are ones of incentive. How do you create incentives for people to move? My own view is that this approach is viable only when we begin to talk about the whole spectrum of economic life, in terms of jobs or Federal subsidies which, in the real world of five to ten years, can't be just an abstraction, but will have to be worked out in detail. I don't see it on the horizon.

The Brook Farm approach, which is really a Utopian approach, talks about building a pre-worked-out corps of people who do manage major participation and control of design in ways that customers ordinarily don't because they're the first political units of a new constituency that is going to be established out there.

FROM THE FLOOR. Could we go just a bit further with this question of how these people are going to live and where they are going to work? If these people are tied down to local industry, the town might fail very quickly, and if you provide the mobility to go to other jobs, then they don't have to live here.

CHAIRMAN. Well, all of the mobility is here, and this is on the main corridor of metropolitanism of the Boston-Washington axis. The opportunity to change jobs is perfectly possible here.

FROM THE FLOOR. Why can't they live out in a little house in the field?

CHAIRMAN. They can. Those are already there. We are saying that there is, a basic shortage of housing. And we know that there is a tremendous shortage of housing for the lower half of the socio-economic spectrum. We are trying to provide an alternative to the kinds of proposals that are already known and being made available in this immediate area.

FROM THE FLOOR. There are obviously severe problems in the city. I have yet to understand how this is not just education or a city for learning, but a total process of living which in someway is an alternative to our present way of life.

MR. GUTMAN. Is that a fair question to ask? It seems to me one of the things that is wrong with this community, as most urban design in your schools this day, it's Utopian in the worst sense of that word. That is to say, it is the assumption that through manipulating the local community you can somehow or other solve the problems of living in our society.

First of all, the problems of our society cannot be solved at the level of the local community, by definition. Urban society is one which is urbanized nationally and in which all communities are interdependent, so that anything that happens in one is the consequence of what happens in another.

Furthermore, in an urban society, which is by definition also an industrial society, the shape of the community cannot solve the basic social problems because your problems are dependent very much on the nature of work and nature of politics.

I don't think it's really a relevant question, although the authors of this proposal certainly

wanted us to ask, What is life like in this community? It seems to me the questions one asks about a city or a town or a housing development are about practical conditions, relating to what Dr. Soltan called the basic needs, and that most of this proposal fails to establish priorities here, puts too much emphasis on the more luxurious aspects of social life and doesn't get at the questions of efficiency and how well the community works simply as a transportation system and as a space system. To expect that this plan can transform the totality of life in society, this doesn't seem to me realistic.

MR. SOLTAN. I think that all efforts related to solving demographic problems today are legitimate; therefore, all types of human settlements will have to be investigated because of the demographic situation of the world. This effort is one of these many and is relevant.

May I resort again to my knowledge of the United Nations data and also of the socialist Communist bloc. In contrast to our efforts here, where we think about heterogeneous settlements, the Communist bloc has a far easier situation, because there all the efforts are directed towards homogenizing the settlements. The homogeneity of settlement is achieved through the involvement of labor unions; each labor union has a certain percent of housing assigned and so on. Now, homogeneity changes because there are many ways---fascinating by the way---through which people start to change the homogeneity of the prescribed, planned, completely, totally planned community.

Now, here we really grope for a wise heterogeneity; we have, at the outset, the most difficult problem---who, where, and how. Whereas, over there, they do not have any doubt who, they do not have any doubt where, and they have no doubt how. So, it remains to the user, then, to start.

The socialist Communist world, as we see, begins to change their attitude towards planification, and the most black-tongued Stalinists begin to retreat; whereas, here, we begin to see that without some elements of organization, it is difficult to organize the world. So, from the growing experience and knowledge of both sides, we probably will find some way of providing this homeostatic heterogeneity.

MR. KRAMER. I would just like to defend myself on my charge of irrelevance by saying we do, in fact, have largely a homogeneous arrangement in this country. Segregation, with a whole set of variables, characterizes the life of this nation. The plan that's talked about here, in words, has to do with low income. In actuality, it has to do with high income, the spirit of high income.

MR. LEVEN. Would you be a little more explicit?

MR. KRAMER. It's a lovely plan; it's lovely. It seems to me to be an enormously expensive thing, to deal with the luxurious aspects of life.

CHAIRMAN. This is an escalator into the middle class. That is what we are constructing.

MR. KRAMER. It says low income, but it means up there.

CHAIRMAN. That is escalated.

MR. KRAMER. That is one thing. What you mean is another thing.

FROM THE FLOOR. May I make an objection to the physical design of the plan. It has been said that this city is going to be a good place to bring up kids because their whole life, not only their life in school, is going to be facilitated by the transportation and by the centers here.

Well, from the discussion so far, I think this would be fine if the youngster is adapted to being a scholar and to participating in discussion groups, but I think a lot of youngsters could care less about being a scholar if they have chances to grow and develop and take responsibility in other things. For example, maybe the youngster should keep a hamster or, even better, a hog. The education centers, shouldn't they have places to do that, the opportunity to do other things they want to do?

MR. DOEPKE. Biology is not going to be taught in the same place that mathematics is taught. It is going to be taught out in the swamp or in the farm yard or in the forest.

FROM THE FLOOR. It seems to me it is very important to know how to persuade people to adapt to something new. I think the development of strategy is one of the most important basic things.

I have worked in Dorchester trying to build something new in the schools. The inability of the design professions to put themselves across to these people is a major stumbling block in trying to put across anything new. A very carefully developed community process in this area resulted in this option: "How can we go to the Mayor to stop all school building? We don't want any new schools; we are perfectly satisfied with what we have. We don't want any change, period." This was the result of the series of group meetings. I think it was proof of a failure to develop proper strategy, on the part of the city officials, the school department, and a number of hopeful and helpful participants, including designers.

FROM THE FLOOR (David S. Best). I would like to comment on the design process. I think the predicament of the whole conference so far is contained, really, in the title; New Communities: One Alternative. If we look at the description that's given in the [Summary Report], one phrase stands out. "The design is rather the result of many reflective sketches which presented provocative ideas. These were subjected to the professional scrutiny of the project staff working together with many other interested members of the university community."

I think that a preconceived conception of a master plan was resorted to, and we were not presented with these provocative sketches; we could have seen the way in which the ideas were developed. This is really the source of our trouble in discussing this subject, and if this mistake has been made in regard to the design process, I think the mistake is obviously much greater at this point than with regard to how to present our ideas to a wider forum. I can conceive a different approach to design process other than the master plan, where the ideas will be presented rather like a game of chess---as, for instance, what would happen if the particular assumption of a very sophisticated alternative in the education system was not accepted.

We have been discussing one alternative, and I think we have gone into too much detail with this alternative. I don't think it was necessary for the designers to have gone to such de-

tail in order to find out the cost of something that we are not even sure we want. I think the origin of the whole predicament comes from the fact that it was a project which was to be this, and your mistake is you did it; you shouldn't have done it. You could have given us an alternative, for instance, a similar problem of housing in Roxbury. We have got, in fact, before us, a master plan.

MR. HAMMER. I think there is a mistake in the title. I don't think it should be an alternative; I think it's part of a much larger process. I think one of the mistakes of this whole scheme is the fact there really isn't a detailed regional context this is put into. I don't think you can think about building a New Town for 200,000 people without really thinking what the hell this is going to do for the central core of the city. One of the problems of the core, as we have seen, is people moving out. As soon as they get that first, or second, kid, out they go to the suburbs. We are reinforcing this by building an enormous city for 200,000. So, I agree with you in many respects that this isn't necessarily an alternative; this is just a tiny little part of a much larger problem.

MR. GUTMAN. I would like to ask what the connection is in the minds of the people who worked on this between the social design and the physical design? Are you convinced in your own minds that the physical design contributes effectively, positively, in a unique way, to carrying out the social design? Or do you think that your social ideas, including the educational notions, the ideas about a grassroots legislature, the idea of services, could work as well or almost as well in the context of different physical design? For me, at least, that is crucial, because as I see the urban design problem it is to establish some kind of linkages between social programs and physical form.

CHAIRMAN. I sit at a critical point in this regard. I would say that, from my three years of experience in working on the design of a hospital with architects and with pediatricians and with all of the people that get into that act, that there is a tremendous advantage in the continual legal interplay between a specific physical structure proposal and a set of ideas. Most of the talk I have participated in has been all the better for having a particular idea to talk about. You get into trouble when you try to talk in the abstract. Let's take the example of Brook Farm and take B. F. Skinner's Walden Two, let's talk that way---it seems to me that, in effect, you are pulling from the sources of experience of all the people sitting in this room, having enthusiasm in their own homes, in their own schools, in their own experience of walking versus riding or using public transportation and all. This proposal gives you an opportunity to play it back and forth.

MR. GUTMAN. I take it that there were other criteria than social ones used in developing this design. The initial notion of the compact city was in terms of its economic advantages?

CHAIRMAN. It has to be a multi-disciplinary effort. There are people in here whose whole livelihood is hooked to the business of being able to develop communities that will sell, that people would use, that is part and parcel of the texture that we have to work with here. It seems that we are saying, in addition to this, that there are some very serious failures

of cities as we have experienced them in this country in recent years. Galbraith was trying to give us an historical perspective on what kind of jam we are in with the city.

The Brook Farm experiments have all been delightful little rural villages where you get a small group of hearty settlers who have a certain philosophy and ideology. They can operate in a relatively self-contained fashion.

What is terribly difficult, as well as exciting, about this proposal is to say "urban," which means that the questions that have been raised so eloquently here today are all the tougher because you are dealing with something that has so many forces at play. We have gone into such a tremendous development of disciplines and specialties that we have a very hard time using vocabulary, even with each other in this room, let alone inviting a group of people that we have had little experience communicating with to join us in this room.

I think that is the next step.

MR. GUTMAN. Let's say that we didn't like Jeremy's education system or that we didn't like the scheme for decision-making in this community or the proposed health services. Isn't it conceivable that some people, at least, might say that this is a good physical design because of certain other efficiencies which should be introduced? Most of our criticism of this plan has been in terms of certain social group criteria, and we could---I wouldn't personally, but I gather some people might want to---reject the plan in terms of these criteria, but this wouldn't necessarily mean that this might not be a good kind of city form or city plan to have for other reasons.

MR. LEVEN. I think we agree at this point that this is a vehicle. Whether we should have accepted the HUD project or not is another thing. The fact is this has served as a vehicle for ideas, and a lot of the comment today has been that something is irrelevant or something is wrong or can't work or won't do this. We have a number of people here who are very creative, who devote their lives to planning and creating physical, tangible things; now there are certain things that they can act upon. Now we can ask, what are the good ideas that have come about by using this vehicle? What can be incorporated into further designs?

FROM THE FLOOR. In relation to the teaching process, this is a vehicle for the Graduate School of Design to involve professors and teachers. It seems to me there has been a marvelous effort on their part. Any student that went through this has certainly benefited and grown by the process of doing this thing. It would be a great thing to be built and then try it on and see if it went. This, of course, involves so much money that perhaps it wouldn't happen, but as far as the teaching vehicle is concerned, take the HUD money and teach your students with it. And that is just exactly what you have done.

CHAIRMAN. Thank you all for coming.

IMPLEMENTATION
Can the Compact Design be Implemented?

William A. Doebele, Jr., Chairman

Wolf Von Eckardt
Morton Hoppenfeld
Kevin Lynch
William Poorvu
Mortimer Zuckerman

CHAIRMAN. I believe before we start our proceedings that we should again remember that this is a very sad day in our national life. It seems to me the greatest, most significant part of the present tragedy is that with the two deaths that have occurred in the last two months we have lost the last great spokesmen for the underprivileged in this country; that is, people who were truly national leaders and who could speak for a group which now for all practical purposes has lost its voice at the national level.

I was very much interested in the newscasts of the interviews at Resurrection City when the death was announced, when the people there refused to believe that there was not some sort of a dark conspiracy at work to eliminate all of the people who were effectively presenting their case. And while many of the other candidates, certainly Senator McCarthy, are very sympathetic to the problem, it is clear that they have not yet been able to establish the kind of communication and emotional rapport with these groups in our society that Robert Kennedy had. Obviously the great problem of our nation is going to be maintaining the channels of communication. There is no one else at the moment who can do this, and our country simply cannot afford to lose such men.

Robert Kennedy was considering, and indeed already had people working hard on, a major New Towns proposal for the United States should he have been elected President, including at least one member of this panel. Again, with his death, we lose an opportunity for moving ahead in this area that might have existed whether or not he had been actually elected.

Professor Adam Yarmolinsky had planned to be with us this morning but his obligations to the Kennedy family are such that he is in New York with them where, as you know, the funeral is now taking place. He did, however, ask me to read this statement of his own feelings about the situation to you. I will quote:

"Robert Kennedy cared about the shape of cities because he cared about the people who live in them, and he knew that proper design and imaginative planning are necessary to make cities fit for people to live in. In his own life he spent much thought and energy on the problems of cities and drew creatively on the knowledge and imagination of people like those here today. The most fitting memorial you can construct for him is the city of tomorrow."

The subject of our panel this morning is a critical exploration of some of the ideas that were presented yesterday. This is a working proposal, as Dean Sert said; it is intended to be thrown out for discussion and is by no means a fixed or a final one. So today I would like to have the panel and you participate in a critical examination of some of the assumptions, particularly in the field of implementation.

Why don't we begin by asking you, Wolf, to give some impressions of the presentation yesterday.

WOLF VON ECKARDT. My impressions of the presentation yesterday are: Amen. This is what we need. This is good. What we have got to consider now, in order to make room for a greater variety of urban living and for the establishment of social justice in this country, is a national settlement policy. It has to be a Federal policy. I am totally convinced of that. You cannot do it with free enterprise. You cannot do it just by states or half-compromise and so on. I think that all this business of trying to spruce up the ghetto and make it a little nicer is totally hopeless, as long as we have an in-migration of half a million impoverished people from the rural areas. We have got to plug that hole and find out what these people need (which is education and social justice). We can provide them with those things out there in Alabama and Mississippi and in Puerto Rico by giving them New Towns.

We have to stop thinking that the city can megalopolize, can grow indefinitely, and, if nothing else, provide social justice. We need a national settlement policy in which we have a national plan. There is no trick about it except to put it across politically. The reason we need it is because we had alienation and anxieties in this country; today we have outright despair. A very great cause of our despair is the urban disorder, and the only way to solve and answer urban disorder is to establish an urban order.

So again---how do we do it? I think we have to throw this thing into the political arena. We have to find the Kennedys of tomorrow to whom we can sell this notion. We have to work it out enough to make it feasible. But most of all, I think we have to throw a popular momentum behind it. Most of the civil rights people don't really know yet that sprucing up the ghetto is not the answer; that we need New Towns and satellite towns; we need new communities. My emphasis would be on the word "community" because what we have been doing all along is not only destroying our land; we have destroyed community in America. We have two societies as part of the urban order.

We can have community or try to re-establish community in exciting cities. This ought to be the emphasis; it has to become sexy with the great American public. I think the trick that we face here, is to make this palatable, make this attractive, particularly to the young people. The young people in this country have accomplished wonders. When you think of where we were six years ago before they all trotted down there and marched in Selma, we have accomplished quite a great deal because of them and because of the momentum of the youth in this country.

Whether high densities are the ultimate answer for everything or not or whether lower densities are better or cheaper is a secondary question. The primary question is the kind of visual appeal that will get momentum behind this movement.

You don't quite do this with Columbia, I am sorry to say. Columbia is just another suburb. It has a lot of great things but it doesn't have appeal. I think design and architecture, something new, something exciting is vitally important if you want to put this across.

CHAIRMAN. Thank you. Mort Zuckerman.

MORTIMER ZUCKERMAN. I suppose at this point we

are discussing the whole concept of a New Town. As I saw the designs and listened to the comments yesterday, I have to say I was reminded of an all-purpose story which relates to the fact that after heart transplants they developed brain transplants where you could go get one ounce of brains. They had it all worked out on cost feasibility. You paid $1,000 for an ounce of engineer's brains, $2,000 for an ounce of lawyer's brains, $3,000 for an ounce of doctor's brains and $100,000 for an ounce of city planners' brains, and the guy said, "Well, how come it's that much for city planners' brains?", and they said, "You would be amazed how many city planners we have to put together to get one ounce of brains."

I can't help but be reminded of that story because I have to say I had very grave doubts about much of what was proposed yesterday. As philosophical background for some of the comments I will make, I would personally resist Federal programs for New Towns and cities and communities, although I have been very active in developing them. But these programs have not been remotely associated with a national settlement program or anything close to that. They have really tried to bring the diversities of private developers within certain general standards and to make it economically possible for them to do this.
I think I would still very strongly advocate that approach, as I think would many of the national figures who are involved in it. There is just too much that is unknown in this area. We are not talking just about the visual environment. Having a good picture in Life Magazine is not what I am going to be happy with for the rest of my life. I feel very strongly that a city must not only be visually attractive but must also be a city which offers many social and cultural benefits and which is reasonable in terms of cost.

I don't think the economics are irrelevant.

I think it becomes terribly important to realize what you are getting for what you are paying, particularly when you are concerned with the basic problem of finding housing for people who are migrating, from the city and from the rural, you might say, underdeveloped areas of this economy or country. These are people who are vitally concerned with cost and this whole high-rise, high-intensity development, new city, is--- theoretically anyhow---intended for low and moderate income people.

You can argue that no matter what the cost is you are going to subsidize the whole bloody thing but that is totally unrealistic, not only today but in ten years and I hope 20 years. You have to relate what you are getting to what you are paying for, assuming, as I think you must, limited resources. If you are going to put something like $16 million a year into the subsidy of the housing in this New Town, I would certainly want to ask whether this money could not be better spent on education or on other things. You have got to make sure that you have some relationship between the benefits and the costs, and these can be measured not only today but over a long period of time. I am very concerned with the feasibility of this thing, and I don't believe that there is such a thing as an aesthetic city on the one hand and an economic city on the other.

In general, I feel that the one major advantage of the high rise in the new city is that you can condense--- although you didn't in this particular case---but you <u>can</u> condense the land areas needed from 15 or 25,000 acres down to 1,500 acres and still have a city that could house 60,000 people. I welcomed this, because one of the great practical problems in developing new cities is that, if you are going to have an impact on housing on a national scale, you have got to relate primarily

to regional economies. It is going to be just that much simpler to find 1,500 acres close to the city and close to transportation than it will be to find 8,000 acres.

However, I think the whole concept of getting cost benefits out of condensing it is simply illusory; the major costs involved at Laguna Niguel are not the on-site utilities but the off-site utilities, such as sewage systems, water systems, etc. What is more, when you get into high-rise construction, you add so much to your cost that your cost benefits simply aren't there. So I am very sceptical about relating high-rise development to the development of a New Town for low and moderate income people. You are putting the highest cost with the lowest income levels, which maximizes your subsidies.

I will close by telling my favorite story about New Towns. Christopher Columbus was being rowed ashore as he discovered America, and as he got to the shore line there were all these Indians gathered about on the shore line and he yelled out, "Buenos dias, mios compadres," and one Indian nudged the other and said, "There also goes the entire neighborhood."

CHAIRMAN. Thank you, Mort. Bill.

WILLIAM POORVU. One of the things that bothers me is that we are dealing really with two kinds of problems. One is the problem of use of land, that is, finding a particular area and justifying its choice. Great effort was made yesterday to talk in terms of: this is logical for industry or commercial development; this particular intersection is going to be developed in any case so let us see if we can develop it better.

The second problem is: how are we going to solve the need for low and moderate income housing in the suburbs, because I am firmly convinced that the problem cannot be handled in the ghettos over a long range, although we certainly need a lot of housing there to start with.

I think too often we get confused as to the real justification for this new community in this area. Mort said it has got to be a realistic community and have a reason for existence; otherwise, the people aren't going to move out there.

Furthermore, are they going to move out there because we put in the community what we think we would like in it or is this what they really want? Do they really want a high density area or do they want the house in the suburbs with a plot of their own, their own sense of privacy? This was one of the things that bothered me about the final presentation by the students. Everything looked like Harvard Square. This was a very exciting thing. But I am wondering if this is really the market of the 200,000 moderate and low income families. I didn't see any pictures of low income people in this new community. They are going to be regulated quite strongly in this new community. Whether this is the sort of life that people want, I don't know. This gets into the whole philosophy of new communities and how rigid you can make a national settlement policy.

CHAIRMAN. Thank you, Bill. Kevin.

KEVIN LYNCH. I think maybe I can pick up on that. The impressive thing to me yesterday afternoon was to hear some of the ideas that were put forth by Mr. Kennedy and Mr. Leven. Some of them maybe went too far. I come from a town that is run by town meeting, and the idea of continuous town meetings frightens me a little bit, and

also the idea of an educational advisor that seizes on me from birth scares me a little. Nevertheless, the idea that you might try to make a world in which people could grow and develop in their own way in a rich environment is to me a very exciting one.

I seem to see a complete gulf between these ideas and what has been designed. I am just repeating what Poorvu had to say---that here you have a town which, even as an illustration, is completely laid out---down to a detailed site plan for the whole with a whole program of development put forward from the start. If you are serious about user-participation in any of these decisions, if you are serious about making an educational environment in which people can grow and have some control of their own, I am pretty sure this is the way you would not design a town. It would have mechanisms and an implementation process that allowed the people who will be in it to have a part in the growing of it, to shape it to their own desires.

CHAIRMAN. Thank you, Kevin. Mort.

MORTON HOPPENFELD. I have nothing left to say because everything that I was going to say has already been said, but I will hum it.

I would like to talk about the design process, because this is the Harvard Graduate School of Design, and I would like to talk about why this school went to the United States Government and the United States Government saw fit to grant it some $90,000 to investigate something and presumably learn something for the benefit of the people.

I find that the "design" is often misconstrued and misused. I certainly don't agree with Mr. Galbraith's definition. But it has to have something to do with prestated problems and problem resolution and implementation. The idea of having something result from your design has to be a part of it. When I came here and read the reports and saw the people who were involved in this project, I was elated, because in all previous Urban Design Conferences, I saw mostly picture projects. Here for the first time was the very welcome involvement of people concerned with the life aspects of the city and---as Kevin ---I was intrigued by the remarks and comments of Mr. Leven and Mr. Kennedy, because this is the stuff that cities are made of.

Somebody once said that cities are the people, and there is no question about it. In that respect the design process was followed through because clearly (like Kevin I would also quarrel with some of the conclusions) there was a premise, a kind of an educational program and a program for distribution of services, that were reflected in the plan. Then, too, I think Dean Sert's initial statement was that they were going to design a compact city and in fact they did design a compact city.

But the whole thing fell apart---Wolf's "amen" turns to my "oy vey"---when someone decided: "Well, gee, we have problems with the poor and with the slightly above poor, the lower middle classes. Let's also house them. In fact, let's be predominantly concerned with them." This is where the thing becomes totally inconsistent. This is where I wish some of the disciplines that Mitchell represents in his approach to building a less expensive house would find their way into the architectural and planning aspects of urban design.

Does the compact city offer any of the economic

benefits that would enable it to better house the low and middle class people, as opposed to other solutions? In other words, if it took fifteen minutes to walk from one side of town to the other instead of ten, would you save money? How much would you save? These would be very interesting questions and consistent with design as I know it. I would state from my experience that compactness costs more than looseness or softness; that a grass slope is substantially less expensive than a retaining wall.

In the design process we have to make conscious, realistic choices. If we are making choices for people who are not able to make their own choices, I suspect that we would choose to put the money into the soft goods of education, health systems, and delivery processes rather than into retaining walls.

There is no question in my mind that it is cheaper to build a one-story house than a two-story house, and the densities that are implied in the 40 dwelling units per acre, 70 dwelling units per acre, just have to be in the order of two or three times more costly than lesser densities.

I do not assert that low density is good and high density is bad. With Wolf, I believe that we should design all kinds of places because this is the nation of choice. The question here is the design process. Was this project serious in its goals? If so, it failed to meet them woefully and, therefore, gets a very poor mark.

I would like to add one more point which is again in contradiction to Mr. Galbraith's initial remarks. Kevin touched on it and Mort Zuckerman touched on it. One of the things that excites me most in my job is the fact that I really don't know what is going to happen next out there where they are building the city because it is alive, and that's a beautiful process, to try and guide something that's alive and responsive. We find that if it's not responsive, it can die. It can get killed because the youth, and the old folks too, in this country are looking for a sense of potency, and they won't settle for less. Unless the design process can accommodate this sense and need for involvement, we are not going to be relevant. Cities will be designed by the people, and whether or not we are there to help make them better places is going to depend in large part on our attitude.

I suspect that American youth today by and large would be more attracted to an unfinished place, to a place which is in the process of becoming and where they could have a sense of participation. If they really felt that their participation could change things, they would flock there, as opposed to coming to some place with a preconceived image that was basically finished for them. This sense of involvement and this sense of potency, I think, will attract the people.

If Wolf doesn't like Columbia, I can assure you that the young people do. They love it, because they are so involved. You can't even get a baby-sitter out there because they have so much to do, and I think that tells us something. It is a message that we designers and planners have been too long in learning.

CHAIRMAN. Thank you, Mort.

I would like to talk a little more about cost and capital. I would like to ask the gentlemen whether new communities make any financial sense at all. It has been argued by the most careful

study that has been made to date, by Eichler and Kaplan in The Community Builders, that in terms of national policy and subsidization of various goods, no matter what is done New Towns are going to be a very unattractive proposition; that the merchant builder can solve the housing problems of the United States now at much less input of public funds; that perhaps the whole idea should be abandoned as a national policy, and we should try to improve our Levittowns and the merchant building process rather than think about New Towns at all.

Mort, you have been advising HUD on this subject. What do you think of the Eichler-Kaplan argument that the whole thing is on the wrong track?

MR. ZUCKERMAN. Having spent about two years doing something different, I suppose I don't agree with their argument. As a matter of fact, I think it is just not true. Does anyone here wish to argue that the merchant builder today is solving the housing problem in this country?

CHAIRMAN. No. The point is: could the merchant builder, with less subsidy, solve the problem, rather than our having to develop this terribly difficult mechanism of building New Towns? That's the argument; not that he is doing it now.

MR. ZUCKERMAN. From the point of view of producing enough housing at minimum cost, I think there are unquestionably beneficial elements to large-scale development, in terms of land planning and in terms of balanced planning for both design and cost.

But the perspective I had was that the operation of the private economic market forces that are in existence make it very difficult to do this kind of planning profitably unless you can do it with someone else's money. The real estate developer traditionally operates with somebody else's money, usually an institutional lender. The method is feasible in this sense.

My role has been to figure out some technique whereby the Federal Government could make it much more feasible for many more people because there are still too few people who wish to move into a pioneering community. In Laguna the revenues were too low in the earlier years. As a matter of fact, if you go through virtually every community which has been in existence and operating in the market for a period of four or five years, I would say that the revenues were about one-sixth of what they expected. On the cost side not quite the same proportion existed in inverse ratio, but I would say that in almost every case the costs went way over what they projected.

Now the combination of these two factors, plus the fact that it generally takes much longer to get these communities to jell than was originally anticipated, means that there is an enormous gap between expenditures and revenue. You are in a situation where you have put an enormous investment into land and an infrastructure; and you have got to pay annual carrying costs, interest and amortization, real estate taxes, and, most important, your city planners. After a while, you find yourself with very little money to do all this.

Let me tell you some of the consequences. You compromise your plan because you sell to merchant builders (may they rest in peace), and you know they are just there to gut the market, so you sell to them with controls---which works to some extent. You also find that you are selling primarily to middle and upper middle income

families because you can realize a higher price for your land.

The whole point of the New Communities Act of 1968 was to develop a financing technique which would resolve many of these problems, including the land acquisition problem, on the theory that, generally speaking, if you have the money, you can get the land, which is not always true but very often true. Also you wouldn't have to compromise your plan, and you wouldn't be under the type of financial pressure which puts so much of a risk into these things. Very few developers, even if they had the resources, are willing to spend ten, fifteen and twenty years in doing this as compared to other alternatives they have.

The Rouse Company is widely known as a very good shopping center developer. Fortunately, they got into this particular project mostly with institutional money. But, if you go through the records of New Towns, you will find great gobs of money have been lost in New Town development, so they are not feasible without something like a Federal program, at least if you want to develop enough of them.

MR. HOPPENFELD. Can I give an opposition point of view? First of all, your reference to the Eichler-Kaplan report, and I think also Mort's last statement, makes the assumption that this has been tried in the United States. It hasn't. All the talk about New Towns was invented by House and Home and Architectural Forum without any real assessment as to what really is a New Town. At least 98 per cent of all of the projects are really not New Towns. They are not city-like places, and they did not intend in any way to develop the kind of breadth and balance in economic and development and social terms that we would ask for in our definition of a town or city. That has a lot to do with the arithmetic and the feasibility.

Most of the places calling themselves New Towns were in California. They still are there, and their inability to really fulfill some vague aspiration about what they wanted to be was because they were building a better suburb and they had a hell of a lot of real competition.

CHAIRMAN. Let me understand correctly, just as a matter of clarification. Columbia has been accused of being neither new nor a town and being a glorified suburb. Physically it's indistinguishable, I think, from the projects you are now describing.

Is your argument that the difference between the other projects---Valencia and so on, described in the book---and Columbia is the fact that Columbia has a Johns Hopkins health plan and new educational devices and a minibus system? How do you justify Columbia as being fundamentally different from the towns you are now attacking?

MR. HOPPENFELD. You started, and if you went on for another half-hour you would finish. Columbia was conceived as a city. We have an enormous array of programs which describe this city and those programs attempt to be all-inclusive but Lord knows we will miss at least 100 per cent of the things that are going to be there. We don't know yet.

Credibility is an awfully important aspect of this process and has a lot to do with when people are willing to move in. The whole credibility of the place as a city or a town is dependent on how it's conceived. The credibility that this is going to be a city is precisely because of our attention to the total array of

I refuse to enter in this discussion and quibble about hard and soft arithmetic because this is not relevant at this point.

CHAIRMAN. Kevin, you are the only one who has written specifically on the image of the city. What is the relation between density and urbanity, and how much should we pay for it assuming that the cost figures are correct?

MR. LYNCH. The answer is simple. I don't know.

The second answer is that surely the needs and preferences are going to be different among different groups. Let me take on that and one thing that Wolf has said. If you really are serious about saying you don't know, and you want to learn and want to do experiments, then don't do it this way. Don't build a whole New Town and then try it out and see if it sinks or swims. Instead, try some high-density areas, try some low-density areas, try out some of the different services. Build into the process a monitoring system so you learn as you go along. Have a strategy which can shift when you learn something new and you find that you made a mistake. The whole present strategy is wrong if you want to learn something.

MR. HOPPENFELD. If I can get back to the design process and the discipline of being a responsible profession---I believe that one of the criteria of good design is your ability to predict the results, the way people will react to your place.

In 1950 or so, a most pivotal study was made on the question of choice among people who were public housing type families; in other words, large families often without a father in the family. The Philadelphia Housing Authority, when it was about to undertake a large public housing program hired a guy like Mr. Kennedy, named Anthony Wallace, who was an anthropologist at the University of Pennsylvania. They gave him this intelligent assignment: "Can you help us develop a design program to house these people in such a way that their environment would facilitate their family life and the relationship between the mother and child and so on?" And Mr. Wallace developed a milestone report. Certainly it is a lot better than your preconceptions, I would maintain. He did it by observation, he did it by interview and so on; and the overwhelming conclusion was that these people, particularly with children, preferred to be close to the ground and for the obvious reasons---the psychological security of the mother-child relationship. She could see him, she could hear him; the kids being near windows and so on.

So the overwhelming recommendation by this report was for the Housing Authority to build low-rise dwellings to accommodate this particular segment of the population who had no real choice. They weren't in the marketplace. For many years the report was squelched, for two important reasons: one, probably the most important, is that the Housing Authority did not have the capability of finding enough land to accommodate this kind of development. The second, I suspect, was very strong lobbying on the part of designers who were hired by this agency. The very next project to come out of Philadelphia was the Mill Creek Project by Lou Kahn, and he had this preconception of these three towers and damn it he was going to build those three towers and he did and he sold it to the people. Between the poetry of Lou Kahn and the very mundane and unexciting report by Anthony Wallace, the anthropologist---well, there was no competition. The

poetry won. This is my quibble with the designers---too much poetry; not enough people.

FROM THE FLOOR. I think that there is no question as to whether we are going to plan or not plan the New Town. The issue here today is that we are going to plan, at least we are going to experiment. I think that Columbia made their greatest contribution to the country not in whether they are right or wrong in their plan but in that they planned. They have inspired other communities to start thinking about planning. It seems to me this is a tremendous contribution.

There was one missing link in the presentation yesterday and that was the point of the generator. Why are people going to come to the New Town? Will they come?

Another weakness in the presentation was that there wasn't enough emphasis on industry. I feel that economic viability can be built into a system if we start with jobs. The man comes there because he gets a job, and then he buys a house and goes shopping and has to be educated. I wondered why there wasn't more emphasis on the industrial end.

CHAIRMAN. I think we should hear from Bob Simon at this point.

ROBERT SIMON. I certainly do agree with Mort that institutions make a city, and I also agree with everybody who said that cost is important, particularly when the effort here is to deal with the lower income groups that haven't been dealt with in this context before. But I think that there should be many Mitchells going to work on the whole cost framework because our ignorance is really appalling.

I don't agree with Mr. Zuckerman that the off-site utilities are more expensive than the on-site. They are a fraction of the on-site.

MR. HOPPENFELD. It depends on your location entirely.

MR. SIMON. I don't believe that unless you are off in a desert, and we are talking about New Towns related to existing communities.

I think, Mort, that your idea that the second story is more expensive than the first is not right. We did some studies on it, and we think the opposite. But it is not important on either of these things whether I am right or wrong; the fact is that there is no body of knowledge, and where it is most important to have a body of knowledge is in the cost of density. The cost of density is not just the structure; it is the cost of transportation. One of the things about this plan which I liked was that it was doing its best to make walking possible and to eliminate the need for transportation. It seems to me that any study of density has to take into consideration cost of structures, cost of transportation and time wasted in the process of transportation. I think the cost benefit would in most cases come out in favor of density.

CHAIRMAN. And pay for some of those retaining walls that Mort was concerned about.

MR. SIMON. This was not a high-rise city; it was an average height of four stories. Four stories is exactly the kind of density where the mother can keep in close communication with the child by the exercise of her lungs. There is no question, in my opinion, that the mother will feel a great deal more secure in a four-story situation than she will spread out in Levittown.

I think land-banking is the only solution to the big problem that we are talking about today, because only through land-banking will we get the land masses that we need, will the community benefit from the increment derived from the allowed density, and will it be possible to get economic income mixes in the communities.

CHAIRMAN. In the interest of time, I will cut off this discussion with a statement that I hope most of us could agree with: that is, with respect to the question of high and low densities and how they affect social patterns and costs, there is an appalling lack of knowledge. What really needs to be done are some rather specific experiments to generate this new knowledge as quickly as possible, to confirm or deny the Tony Wallace report that Mort referred to, to resolve the argument that Robert Simon has just raised as to whether four stories are cheaper than one story developments and so forth.

FROM THE FLOOR. I think you have to go one step further in the element of choice. Until technology improves, it is going to be much cheaper to build one and two story spread-out houses than high density housing. The type of shelter built is going to have great differentials in cost for decades yet because of the tremendous incentives that have been given through the years to have one kind of construction, low density, and the complete paucity of any kind of structural analysis like Neal Mitchell's. Any New Town that is going to offer an experimental environment of choice, so that people can determine the kind of density they want to live in has to be one in which people pay for the shelter on the basis of their ability to pay, not on the cost of that unit. That is a social program implication that has been neglected in New Towns legislation so far.

CHAIRMAN. How would you come out on the project proposed yesterday, then?

FROM THE FLOOR. I agree with Von Eckardt that there was no choice in it, and I think that was a disastrous mistake. Mr. Hoppenfeld and Columbia have gone on the right route and have tried to offer every kind of alternative, but they are hampered by the fact that we don't have any house that the low income family can afford besides 221D3 and the Levittown-type of house. It may well be that the high-rise structure is good for the poor people, but there is no program with it to charge people on the basis of their ability to pay.

CHAIRMAN. I would like to direct us toward the question of the present state of legislation in this field, which Mr. Zuckerman touched on before. Is it adequate in its own terms and also is it adequate in terms of the questions that have just been developed in this panel?

What has been proposed in Senate Bill 3029 is essentially a cost-revenue debenture system, in which a developer can receive up to $50 million at the going rate of interest with the rather unusual privilege, in terms of private financing, of not being required to return either interest or principal until he reaches a point in the project, presumably in about seven or eight years, at which sufficient revenues are generated to be able to start making the payments. The proposal also permits land, which is one of the principal collaterals for these debentures, to be sold without renegotiating the terms of the debenture itself which is unusual in terms of present private financing. It creates, in other words, a pool of "patient money" for noth-

ing. I take it this is the principal thrust of Senate Bill 3029 to deal with the New Towns issue.

MR. ZUCKERMAN. You have to look at the bill as a total bill. When the original report was submitted, there was a very strong program of low and moderate income housing which would be tied into New Towns. Also, as a definite part of it, was the idea that there would be greater return on financing available to the developer who provided one of two things: either a higher proportion of low and moderate income housing or innovation in design and development, of either housing or land.

CHAIRMAN. What were the incentives given?

MR. ZUCKERMAN. The original program was what we call a limited-dividend concept with different ratios. The limit has been eliminated; the ratios of financing have been changed on the limited-dividend concept. It was recognized in terms of the ratio of its return. Instead of getting an 8 per cent return, the developer could get a 10 per cent return.

The way it is going to work now---this will appear in the regulations and also in priority recognition of the applicant---it will be primarily for people who are providing advances, either in the income level of the housing or the quality of the design of the planning.

The legislation itself is intended to be on a scale that's large enough. We were able to get only $50 million because the one example that I could cite which got $50 million in financing was Columbia---this is the way these things go.

CHAIRMAN. It could be hypothesized that under present financing arrangements, unless you are Jim Rouse or Cabot, Cabot & Forbes or have other unusual sources of finance, that building a New Town is one of the least attractive investments in the entire American economy. Extrapolating from the new proposals in Senate Bill 3029, the change is from its being completely crazy to build a New Town to its being only midly so, because providing the finance still does not solve many of the other basic issues, such as the questions of assembling the management team, of building the model. I think Mort is quite right, that the famous Technical Report No. 16 that Mr. Gladstone prepared really made Columbia possible, by enabling you to predict what your decisions now were going to do in terms of gains or losses ten years from now. The alternatives are so fantastic. When you have a piece of land the size of Manhattan, when you have all kinds of crises about each parcel with respect to use, density, amount of infrastructure, investment, infinite possibilities on every square foot of that land, you have to have an accurate model. The extent that Columbia is or will be a financial success hinges on the development of a reliable model.

At the moment there are very few organizations in this country that I think would be capable, even with the capital furnished to them on a silver platter, of doing the management involved in the New Town. I don't think that the Federal Government is yet addressing itself to this problem, and I don't think the legislation will have an impact until that is dealt with.

A second criticism of Bill 3029 might be that this giving advantages to people who are innovative really doesn't get at the kind of problems that we were just developing in our discussion, such as: How do you cost things out?

How do you test the social consequences of what you are doing? Here you are merely saying if two people come in at the same time and one has a more interesting plan than the other, you will give him the green light, but that is a long way from the kind of real solid data generation and experimentation that we need.

MR. ZUCKERMAN. I don't think it's the role of any Federal legislation to organize management for these things. I think that the management can be put together, and that there are many people who can put together the economic model. Certainly you can't, in my judgment, put together the social implications of all you do in a model, but you can evaluate and predict in economic terms.

As to the need for more data, I again think the only way you are going to generate the data on this thing is to begin to experiment with New Towns and to establish a requirement that all New Town developers under this program keep the appropriate type of data, so that you can begin to build what you need. My judgment is to cite what I think is one of the better answers, Kevin Lynch just saying, "I don't know." I agree with him. He doesn't know. We all don't know. We don't have the data in terms of what is going to happen in these things. And even if we thought we knew the facts, what we know is one thing; what the people living there might want to know is something entirely different. There has to be enormous flexibility.

So I would reject the type of requirement which says: well, now, if we have so many high-density units in this area of the country, we will give it to him, and if it's low-density units in this area of the country, we won't give it to him.

CHAIRMAN. The second topic under discussion today is that of land assembly. Is some sort of power of eminent domain, presumably a state power which would be stimulated perhaps by a Federal subsidy program, necessary to carry out a New Communities Project in the United States?

Perhaps I can put this most easily in another question to Bill Poorvu and Mort Zuckerman. Eichler and Kaplan described Jim Rouse's operation as being a James Bond story---how he assembled 15,000 acres in Howard County---and indeed it was a highly complex operation. The question to both of you gentlemen is: if I were Huntington Hartford or another investor and gave you about fifteen million dollars (about the sums involved in Reston and Columbia)---could you assemble the land for a New Town for me, say, in St. Louis or Denver, a particular city I might be interested in, without eminent domain?

MR. POORVU. Despite a lot of looking, Rouse has not found the answer to topic two yet, although they are working. It's a tremendously complicated issue.

May I go back? There is one thing I want to say from the first topic that ties into the second.

If you look at these new communities as an opportunity to do some experimentation---you might want to build maybe eight, ten of these over the next ten, fifteen years---the eminent domain problem does not become so crucial. It will be almost an accident for you to find a site like this; but if you are only creating a few New Towns, you can hope for the accidents and you may not have to go through eminent domain.

CHAIRMAN. It has been predicted that the power

of eminent domain for New Towns might be in the cards politically in about five years or so. You are saying that it doesn't matter for the next five years. We can do what has to be done to move ahead in this with the sites which have been organized or could be organized by, for instance, Cabot, Cabot & Forbes.

MR. ZUCKERMAN. If you have $15 million today to go out and buy land, I would say you are probably going to be able to assemble quite a bit of land.

You say, "in a reasonable location". I would say that you could assemble around Los Angeles, around San Francisco, and around Boston, just to pick three examples.

Yes, you could assemble it if you had the money. But, there are very few people who have $15 million who are willing to put that kind of money into this thing, and eminent domain would in many instances be helpful. There are different historical land-holding patterns on the East Coast as opposed to part of the West Coast where there are huge land holders. On the East Coast, you have them in different sizes. I think the original piece that came to Columbia was about 2400 acres.

Bob, if I am not mistaken, the piece which you bought was in one piece, 7200 acres?

MR. SIMON. 6700. We bought the additional 700.

MR. ZUCKERMAN. When we bought Laguna, we bought 7100 acres, and then we put the other 26 acres together. There are many other areas in the greater Los Angeles market where you could assemble land. Whether you would get industry to go there and things of this sort is another matter. It took us nine years to get industry to go to Laguna.

MR. HOPPENFELD. Could I add to that? If you agree with Wolf, as I do, that we need a national policy of urban development and if you can preconceive part of that policy being a statement about new city development not only as satellites to existing metropolitan centers but whole new metropolitan centers (which I think are absolutely essential), the magnitude of our growth problem is such that if we were going to accommodate in the area between Washington and Baltimore, for example, just the normal growth of inmigration plus expansion of families, we would have to build a Columbia every single year to accommodate this growth in an organized way. Now, clearly, to rely upon random accidents for land assembly and on private interest is woefully inadequate. I think that the only answer is a Federal commitment.

CHAIRMAN. So you think eminent domain powers are immediately necessary?

MR. HOPPENFELD. Absolutely.

MR. VON ECKARDT. If you can acquire without getting anybody upset and the Congress upset, fine; but if you can't, if you need eminent domain, or partial eminent domain, to get a little parcel to join things, then you do it. It's a tool for a larger purpose which has to be employed to serve the larger purpose of necessary.

CHAIRMAN. There now exists in Massachusetts an Urban Redevelopment Corporations Act which provides that any three of us in this room who are citizens of Massachusetts could band together and, by following a number of procedures and getting approval from either the Boston Redevelopment Authority or the State Housing Board and

following local procedures with the local jurisdiction involved and getting the plans approved and so forth, could acquire for ourselves or for our incorporated selves the power of eminent domain to carry out urban renewal projects. Obviously when you go that far, to extend this to building new communities becomes a rather short legislative step.

FROM THE FLOOR. We are overlooking one point when we talk about new legislation for financing, as well as for eminent domain, and that's the realistic position that's been taken by the central city in relation to New Towns. We are all ignoring the fact that they see New Towns as a threat and as an additional problem they would have to face.

We all talk about attracting industry to New Towns; they see it as industry from their city. We talk about an integrated New Town with at least a good proportion of middle income population; they see themselves as still struggling to maintain the middle income population that they have. And they see that the subsidies and the assistance that they have gotten to solve their problems to date, both their capital needs as well as their operating cost needs, have been miniscule. So, realistically, they are not jumping in with any kind of political assistance and in fact are, with their left hand, slightly subverting any effective New Town legislation, because they feel that this is inimical to their best interests.

FROM THE FLOOR. Without eminent domain, the pressure to provide housing at lower cost is going to drive the developments to irrational far-out locations and create leapfrogging. That alone, I think, is sufficient justification for it.

MR. POORVU. I would argue for eminent domain for an entirely different reason. I think your problem isn't so much getting the site; it is doing what you want on the site. I am not only worried about the central cities' opposition; I am worried about the suburbs' opposition to this New Town. I can see the residents of Foxboro when you talk about moving 200,000 low income families out there. If you want to do meaningful experimentation, we have got to look for a totally new method of government participation.

CHAIRMAN. If you were to choose between an eminent domain bill and a bill permitting the right to suspend local zoning, would you say that the latter would be more significant in terms of our objectives than eminent domain?

MR. ZUCKERMAN. This would be the judgment of any large-scale residential developer, say in California. This was their judgment at a New Town conference that they had; that the biggest problem they face is the legal infrastructure that they have to overcome once they have purchased the land.

FROM THE FLOOR. A comment on policy and cost: I suspect that corporate America really isn't going to play the game until and unless the Federal Government can subsidize at least 30 per cent of whatever we are talking about. And I understand Kaplan, a year ago at Expo talking about New Towns, to say that he was convinced that you could put together all the existing legislation that we now have and probably build new cities that cost comparatively little, but if you actually presented this to Washington, they couldn't handle it. We have to set our legislative programs in order before we get proper implementation. But short of an out-and-out national policy, nothing is going to happen in

terms of cost and doing it.

FROM THE FLOOR. We know that part of our major problem is rehousing and we know that we have to move about two million people out of the cities each year to maintain the ghettos in their present state. What are the tools necessary to implement this, given that there will be in the New Towns, once the property is sold to private owners, the same pattern of resistance to low income families moving in?

CHAIRMAN. That is a very critical question. I think Mort is the one who is probably the most qualified to talk to it.

MR. HOPPENFELD. You need a whole kit of tools. For one thing, the best possible solution to a question of low income is to reduce the number of people in the category. Give them some money, not only the minimum income but rent subsidies in place of public housing and so on, all various techniques which have been explored to simply make them able to compete in the marketplace with a dollar. That makes it all a lot more palatable because they don't have then the stigma of "the place" that goes with Federal housing.

We have been unable to incorporate into the environs of Columbia families who are below the economic range, say, of $4,500, $5,000, because the political environment that we exist in simply doesn't believe in it, and we are at their mercy. They have no public housing program elsewhere in the county. On the other hand, we believe that we could incorporate this group into the community were the legal tools available to us.

In typical new development areas you are hard-pressed because of the kind of pressures that build up among the neighbors. The concepts of wholeness and that the distribution of income range is going to be spread around and not be segregated become threats when you have all middle income or all white or all one kind.

By announced preconceptions of mix and by acceptance of the fact that, "okay, I am not really tuned into this in 1968 but I am going to be getting so much more, I am going to be getting this downtown district and this concert and all," they will put up with it. This wholeness that is represented in the idea of building a new city is clearly a way of re-integrating American society instead of trying to shove it into existing suburbs and white belts, and that's all the more reason for a national policy.

CHAIRMAN. Mr. Poorvu disagrees with that.

MR. POORVU. I don't think we are going to get enough New Towns. I agree that you should put some low income housing in every New Town, but I think the need for low income housing is so great in numerical terms that we have got to deal with it primarily as a problem of the existing suburbs.

CHAIRMAN. The New Towns project which you saw proposes that 35 per cent of the families would have an income of under $5,000 and presumably a large proportion of those would be Negro or other minority groups. Is that a totally unworkable assumption? Would it be unreasonable to think of the remaining 65 per cent of any population in the United States being tolerant enough to accept a 35 per cent ratio of people at that level? Mr. Simon.

MR. SIMON. I think that we don't know, and I

think it's foolish for us to postulate in advance facts before we know them.

Now in Columbia they have a neighborhood-by-price category, which is one solution. As I understand it, the maximum in house-price range in a given neighborhood is $3,000. At Reston we went, in one neighborhood, from $21,000 to $47,000, and it worked fine.

But I would like to move over to the main issue here which is, should we have eminent domain? I would hope that after getting a consensus here, you might deliver the report of this committee as being very much in favor of eminent domain immediately, not for the benefit of private developers only but more importantly for a land-bank which is government held, government planned, and retailed to private developers. Almost none of the new community developers are putting in the inputs of services and facilities that are desirable, and by having a retail operation you gain the benefit of the increment to pay for the facilities.

CHAIRMAN. Mort, you are a consultant to HUD. Has this land-bank idea been discussed and what are its political possibilities?

MR. ZUCKERMAN. It has not only been discussed, it has been recommended---and been defeated every time. The political realities of it are that unfortunately, most of the home builders, for example, the National Association of Home Builders, oppose it. It is unfortunate, but I recommend that we recommend it as strongly as possible.

MR. POORVU. I think we can tie this in with other things. At the moment it is considered wrong for a builder to make as much money on low income housing as he does on other housing. I think that legislation that would help both the builder and the owner, allow for the builder's profit and for subsidy as necessary for the owner, would eliminate a lot of the opposition.

FROM THE FLOOR. Are you going to provide industries first and have the housing come second, or are you going to provide the housing first and then the industry?

CHAIRMAN. This is a fundamental problem of New Towns. You get a chicken-and-egg situation. Eichler and Kaplan point out very well that one of the reasons why they are unfeasible is that you are always dealing with the problem of which comes first. Industry wants to come to a labor force; people won't move until there is a job. This is a problem we face in Havana, as well as in Venezuela, of keeping the jobs and the people in some kind of balance. It is a very difficult problem.

I would like to move on to other questions which might not be so critical as the ones we have discussed but that I think may be of interest.

There is a physical aspect which came out in some preliminary discussions the panel had. Let's move from the housing to the central core. This is a very key part of the whole proposal. It proposes mixing commercial uses, apartment uses, educational and cultural facilities in one very tight, compact, high-density area. What sort of physical problems are involved there and what kinds of special costs may be created by that and what is the practicality of that proposal?

MR. HOPPENFELD. You know, I sound like I am against all these things, and Lord knows I am

not. I love to see stores under the buildings and what have you, but you have to say, "Well, if you are going to put the store under the apartment house or under the office building, what kind of a store is it?"

This is the design process again and how the designer responds to a given set of conditions. That's where my quarrel is, not with the goals or any of these things. It is bad design, pretty maybe, but bad design.

In this central core, by rule-of-thumb estimate, you would generate some three or four service centers, which would have as their hub a major supermarket. In today's merchandising techniques, that supermarket gets to be 20 to 25,000 square feet. But you won't get Giant Food or Saveway to put at 24,000 square foot supermarket into a space which has columns down every 20 feet, which is the discipline of the structure above.

So you get into the dilemma, which discipline do I abide by? If I have to get my supermarket in, the spans are 40 to 120 feet, because that's the way they merchandise and that's the kind of flexibility they need to move around their equipment. I really would love to have an apartment house over the supermarket, but that means I have got to put in a girder.

There is a logic of disciplines; each activity has some logical, physical manifestation. You take Neal Mitchell's system. That distance between the columns didn't come by accident. If you want to shove something under that, you have to transfer the loads and you pay a premium. Every time you choose to do this, to make these mixed uses, you are building in the costs.

MR. VON ECKARDT. This is a question; not an opinion. Can't we change some of the conventional wisdom of the supermarket designers? Can't there be a little bit of give-and-take, assuming again that the idea of living over the grocery store is desirable.

CHAIRMAN. Certainly there are examples---in Montreal and numerous ones in Manhattan. Is Mort's point valid but exaggerated? Aside from some special problems like the supermarket, which might require its own structure, is it a generic problem as Mort implies or is Mort's objection really valid?

MR. POORVU. I think it is the density that matters. If you have enough people who walk to this supermarket, they will put up with a much smaller market. If it turns out they are going to have to drive to it, they would much prefer to go to a bigger supermarket with much wider space.

CHAIRMAN. Cabot, Cabot & Forbes probably has dealt with this.

MR. ZUCKERMAN. I don't think the answer is clear-cut either way. You can work out some kind of an accommodation, for example with a supermarket chain, which reflects your own particular desires, but I think Mort's point is essentially valid. You do have conflicting disciplines. You have the independent discipline for the best size for a supermarket, and you have the disciplines of building an apartment house. It is a maximum-minimum equation. You are going to balance it off wherever you can, sometimes successfully and sometimes unsuccessfully.

Place Ville Marie in Montreal is an example of underground shopping that is extraordinarily

successful. Similar projects have been tried in other areas and have not been successful. Part of the reason why it is successful in Montreal is the very bad weather they have for a good part of the year, which doesn't hold true for every part of the country. It is just a maximum-minimum equation.

MR. LYNCH. The generic problem, I think, is one of adaptability. When you mix uses at high intensities, you have to watch that each one of them is able to change and grow and operate in a changing way. Therefore, your aim is not really to get things over things; that's trivial. You really want to get certain kinds of uses close in time-distance; it may be wise to get that without interfering structurally. That is what designers are for.

MR. HOPPENFELD. What Kevin just said talks about design process instead of preconception. Let me just follow this one step further because it seems to me so important. It has nothing to do with good and bad because there is nothing wrong.

Again I speak against my personal choices only because I am trying to get at principles. When you reduce the size of that supermarket just to get it in there, that process of distributing food to a consumer becomes a less efficient one by today's techniques. The manager has to have more people to man a smaller amount of space. He is going to raise the price of his food. The people who shop in this market are going to pay for it. This happens in Manhattan, it probably happens in Reston, wherever you have small distribution units. That's fine if the people who are going to shop there can afford it, but it is a great contradiction in this particular solution. We are here talking about people who don't have enough money; therefore they should not spend so much for food. They should go to the farmers' market, so they won't have to pay for this shopping environment. This is the point that I want to clarify; there is a contradiction and therefore it is a bad design, not that it is good to be one way or good to be another way.

FROM THE FLOOR. It seems to me there is contradiction here in terms of a sort of architectural impudence, a wish to make structures which every careful analysis has shown to be inflexible rather than flexible. This is one of the major conflicts, the architect's wish to make what I call impudent images.

CHAIRMAN. With that I would like to move on to the last topic, the question of control and freedom within a New Town. Obviously when you have a New Town developed by a single developer, whether it is a public or private developer or a mixture of the two, there are at least two major conflicts of interest as the town develops.

First of all, there is the problem of how the developer deals with the builder. In all towns, including the ones you have seen, the majority of the buildings are to be built by individual builders and not by the development corporation.

The second problem is, how do you maintain control vis-a-vis the citizens who will want to be participating more and more in the control, in directions that may be diametrically opposed to the developer's point of view? Particularly in this town, for example, people might very soon vote for low densities, and if you are trying to create a high-density town it would be disastrous to the overall plan and also to the financial model that you have developed.

Kevin Lynch made a notable speech at the AIP's 50th Anniversary in Washington in the fall of 1967 in which he talked about the quality of freedom within design. I think we should talk a little bit about the strategy of a development corporation in dealing first of all with the builder and, at a later stage, with the people, in terms of carrying out some sort of overall design but allowing the maximum of freedom.

MR. LYNCH. I think I have already spoken to this. Maybe, just to summarize, you will have a whole range of decision-makers and users in this community over a long period of time. Therefore a proper design process would be one which doesn't lay out all the town in detail from the beginning but rather has a strategy for deciding which sorts of decisions you will try to make early, which ones you will try to make in a centralized fashion, et cetera. For example, what are some rules for deciding where you decentralize decision and where you centralize it? They go, I suppose, something like this: I would try to decentralize decision as much as possible, with the following exceptions:

First: those decisions which cannot easily be made by the ultimate user, either because they have to be prior in time or because they involve many other ultimate users, such as the organization of the basic sewage system.

Second: those decisions which the ultimate user doesn't want to be bothered with, where the standard of performance is fairly clear. You want to reserve to him the things which he is most concerned about, his welfare.

Now we come to the question of density. You will have to make early density decisions before you can decide what physical and institutional services you are going to provide. I would, if I were free to, try to get a range of density so that the user had a choice. Instead of being made to enter into whatever the density is to be in a certain area, he has got a choice about it.

But I would certainly try to so design the town from the beginning that if I find that my early density decisions were a mistake, were wrong, I could switch.

CHAIRMAN. How far have you gone in Columbia? What are some of the key areas which are tied up in covenants or in other obligations?

MR. HOPPENFELD. In essence, we are trying to carry out our development much as Kevin describes it, and this is no small task. In other words, it's an open-ended design. We make daily design decisions instead of simply trying to implement a design. That's a fundamental attitude. You can also choose to build cities in an entirely different way, a much more authoritarian, dictatorial way.

These are the decisions we make with no question about it: the lay of the roads, the design of the roads, the placement of major facilities, and the location of density patterns. Now this allows us considerable freedom. We have one density which ranges between 10 and 60 dwelling units to the acre, and our services are designed for 30. So that within a rather large geographic area we can range in density from 10 to 60, and that is quite a range when you get into the nitty-gritty of living and life style; they are very different kinds of places.

We said that within this area, one part should be high-rise, but we don't say what density that high rise should be because the high rise can

occur at very different densities.

CHAIRMAN. Who finally decides? The guy who builds it? How does one go from something on your plan that says high rise, to the buildings?

MR. HOPPENFELD. Let me follow our process through. We set up the network of roads and the network of major utilities which you have to put in before you start anything, and there is no question about who makes that decision. We also locate the basic service centers, shopping centers and schools and so on, because these are critical to the layout of the roads. In other words, there are some things you can't leave open.

But then it comes down to the user. Basically we are in the land-development business, so we sell that parcel with a given density with the idea that a high rise makes some kind of aesthetic sense, and I use the word "aesthetic" here because this is an image thing. It makes aesthetic sense from the point of view of the visibility of a given location as you travel on the interstate freeway. Because you can see that point, we want a landmark. On the other hand, it makes marketing sense for the guy who will buy that land; it's a great site; they get a view out. In effect, we enter into a dialogue with the guy. We say, "Here is a piece of land. This is the way we would like to see it done." He says, "Nonsense, I can't market a high rise. There aren't enough people who will want to move into a high rise. I am willing to pay the price but I want to go all three-story walkups." At that point we have to make an ad hoc judgment as to whether or not we want to violate this aesthetic goal for the bird-in-the hand. That's the type of day-to-day decision that has to be made with regard to this level of design process.

When it comes to individual dwellings, that becomes the specific decision of the home builder, whether it's a large developer or an individual home buyer who buys a lot. But in every deed of sale, whether it be for an office building or a factory or an individual house, the developer reserves the right to approve or disapprove the design. Just last week we went through this. There was a town meeting at which I had to explain the design principles from which I was making the design decisions about the height of a fence. The principle is: to what extent does your personal choice interfere with your neighbors, or cause chaos in a larger picture, and where are the common grounds.

To me it's a very exciting kind of democratic process and the people, surprisingly, want more control rather than less. They want us to impose a stronger over-view than we thought they would want. They were severely critical of the standards which we applied to the mass home builder.

CHAIRMAN. In this connection there is a very interesting study by Wirth of what the word "planning" means to the purchaser as opposed to what a planned community means to people like ourselves.

When you see on a billboard, "This is a Planned Community," what does that mean to the person who is going to buy a home there? Most people who have sold planned communities, even though they are just rather ordinary suburbs and so on, have put in their brochures that planned communities mean bridle trails, access to lots of parks and recreation, high level educational facilities which the kids can reach without crossing roads,

all of the conventional amenities that planners think about. However, to the purchaser, according to these studies (which were made largely from California samples), the word "planning" to a purchaser means a removal of his anxiety as to what will occur on the land around him. A planned community as opposed to an unplanned one is where there is security for his investment in the house; there will not be a deterioration of the surrounding area. He will buy a planned community as opposed to one that isn't not because of the education or the parks, but because he thinks his investment will be more secure and won't depreciate. Therefore one is dealing with different values. Whether this study result would apply nationally one doesn't know. It certainly ties in with Mort's observation that most people actually want more controls than Kevin perhaps would want to give them.

MR. LYNCH. Most of the decentralization of control that Mort was talking about was decentralization not to the user but to the builder, to the local builder. I am particularly interested in the possibility of decentralizing control to the user, whether individually or by small groups where he can express his own preference. What are the techniques by which in building a new community one can get control to the user who isn't there yet? Is this an impossible task?

MR. ZUCKERMAN. We have this in one of our communities.

MR. LYNCH. Before they are there?

MR. ZUCKERMAN. In many of the areas in California where you have major developments, you have a home-owners association. I have to tell you that that is both good and bad. As a matter of fact, people have to become members. They get involved in the maintenance, the security, the landscaping and the designing, and they get involved in this right through. Admittedly there are certain overall structural restrictions which we have imposed.

MR. LYNCH. They get into the design of the unit before it is built?

MR. ZUCKERMAN. The way it works is this: they get involved in the design of units which are built after.

MR. LYNCH. They control the next people that come one?

MR. ZUCKERMAN. It is not like pledging a fraternity: "We got it; now we are going to give it to them." It doesn't work quite that way.

MR. HOPPENFELD. To me this is a goal, that the user should participate and, in fact, make most of the critical decisions. You have to have two attitudes. One is the willingness of the designer and developer or manager of this community to allow for this to happen and therefore not predesign and precommit so you have to postpone decision.

To give you an example of what I would consider a rather optimum situation: we have a service center which we call the Village Center. Part of it is reserved for the Religious Facilities Corporation (a whole new kind of thing) but they don't move in and design the next one; they design the first one. The churches were able to occupy temporary space in a rather anonymous environment, like office space above some shops, in order that they could then during this interim period design their more permanent location,

which they are now doing.

MR. LYNCH. How did it work?

MR. HOPPENFELD. They haven't designed it yet. They can't make up their minds.

MR. ZUCKERMAN. I was just thinking what God could do if He only had the money.

FROM THE FLOOR. I am concerned with the continuity of administration which we have touched on. What happens in this case, in a community of 200,000 low income people who have had no administrative experience perhaps heretofore, thrust into the problems of deciding all the questions.

CHAIRMAN. The theory is that there would be a municipal government, and the problem there is no different from incorporating these same groups into the government of Boston by creating neighborhood city halls and so on. One of the strong proposals of the project as it now stands ---which was developed by a third-year law school student---is to have a high degree of decentralization to educate even low income groups into the process of local government at a level at which it is comprehensible, perhaps giving block grants of money in certain areas to "little city halls" as they are called, to permit people to spend it on whatever they want. If garbage collection was the problem, let them spend it on that, or maybe better education; but to trust people at the neighborhood level to have a great deal of local self-government.

FROM THE FLOOR. I would like to hear some more comments on the Wirth study. It seems to me a prerequisite to good planning, but there doesn't seem to be anything done like it in the Harvard plan. Why not?

CHAIRMAN. Neither time nor financing permitted this kind of study. It is very clear that we must begin serious social investigations now. These require a great deal of money and very imaginative people, both of which are in short supply. The problem is, as has been pointed out, that we have so little hard information in this whole field that the Wirth study, whatever its philosophy and although it was a geographically limited sample, is one of the few concrete things we have. We need these to build up a strong picture. Hopefully the money will be forthcoming from HUD and elsewhere to do this kind of thing.

FROM THE FLOOR. What controls do you want to build in? What do you think is sacred and gets first design attention or first implementation, and where can you leave it up to the individual whether he is a businessman, churchman, home owner or whatever? What would your strategy be for development of this typical town? And would your egos be deflated if you found your plan unacceptable?

CHAIRMAN. The intention of the project was that the town be developed in a way quite similar to the philosophy that Mort just described and Kevin was talking about; that is, that a plan would be prepared, a suggestive plan that would show the builder the kind of things that were felt to be the most suitable use of the land in terms of its functional relationships, the infrastructure which had been developed and its marketability. Then we would negotiate with the developer, which would result in far more variety than the sketches you now see on those boards would suggest.

FROM THE FLOOR. What do you consider innovative

here? And what do you wish to keep control of?

CHAIRMAN. The project calls for a different philosophy of education and has located a new set of educational facilities through the town. It has set up a new kind of transportation system. These obviously would be held to. We would attempt through all means possible to keep the density of this town very high because of the assumption of testing compactness. But beyond that, as far as the architecture is concerned, the configuration of how each one of those blocks would specifically develop would be much as Mort says; it's a question of working with the developer.

MR. LYNCH. Then the form of the proposal is wrong, you know. It shouldn't be the form that was given at all but should be, let's say, a description, partly verbal, partly graphic, of what it is that will be insisted upon as the core of it; what sorts of guidelines and suggestions will be made; what areas will be opened. It ought to be a strategy for design; not a site plan.

CHAIRMAN. That may be. It is much harder to do.

MR. LYNCH. Let me also say that we just completed an effort to design the possibility and form of a new community growing out from Columbia Point. It didn't work; it failed in many ways; but we were trying to do it in that way---set up the physical design as a set of design rules, or characteristics, that we would recommend that the development authority insist on in the detailed design of an otherwise undeveloped, undesigned community.

CHAIRMAN. I think our presentation was misleading, because it showed more details than the designers themselves were committed to.

FROM THE FLOOR. I am with a firm called Metropolitan Structures in Chicago, who hired me to do all these high rises that most people are aware of. We are developing a large-scale project in Montreal which has many of the high density implications that I think this study is trying to address itself to. On the other hand it's very soft, as Mort was talking about; it has few walls; it has few of the very expensive things that a realistic developer knows he cannot do. This in a way is an experiment, and I hope that all of you over the next year or two will look at the project.

CHAIRMAN. Could you give us the name?

FROM THE FLOOR. It is called Nun's Island. It is about three or four minutes from downtown Montreal. It's an island up-river from Expo. There are a thousand acres, of which about 400 are being developed for residential use. The total density will be about 45,000 people which is about 30 units per acre. On a growth basis it is much higher than if you take it on a net basis in certain areas, but the first thousand units are about complete and are being rented and occupied now, and I am pleased. I think that here is another developer that people should look to, because this fellow is desperately trying to prove that you can do a good job with higher densities developed with open space. We have about three hundred some acres of open space out of a thousand acres.

MR. HOPPENFELD. Could I speak to that? We have used the word "experiment" a number of times around here; the Federal Government uses it; and unfortunately it's like the word "design"---it is seldom used in an accurate sense. You are

supposed to learn something from experiment.

CHAIRMAN. You have to monitor it, or it is not an experiment.

MR. HOPPENFELD. You have to have hypotheses; you have to set up rules, and you are supposed to come back and see how it works. We don't do that. This kind of rigor and this kind of discipline is missing from this particular excercise. We could have learned something from this exercise in the preconceptions of compactness and what it means in every respect. If I were doling out the money in Washington, I would say, "Yes, let's build that one but under these conditions. I want to find our exactly what it costs; I want to find out what happens to that learning system; I want to find out what happens to the questions that Bob Kennedy raised"; and so on.

Let's do them all. Four or five experiments in this country would be a drop in the bucket. We have to build more and use every single occasion as a learning trip, and we haven't learned anything in the last 100 years.

CHAIRMAN. The original proposal, incidentally, for this specific project was that the first year be devoted to developing the idea and the concept---the physical, educational, cultural and other inputs that would go into the idea of compactness---because no one has really thought through the advantages of this kind of compactness nor what could be done with it.

Then the second year would have been used in testing in terms of cost, in terms of the necessary social material, and so on. It was conceived as a $250,000 two-year project; in the first year, $100,000 would be devoted to working out these implications of a compact town in all of its phases, and in the second year, $150,000 to exploring the hard facts, testing it out as nearly as one could do without actually building it.

HUD, because of its own budgetary constraints, gave us $91,000 and eight months to do the whole thing, with the possibility of getting a second-year extension which the school is now attempting to do, to answer many of these questions.

What we have done is to introduce you into the project at this half-way point where the attempt has been merely to think through, not to get all the hard information---which I realize is absolutely essential if the thing is to be more than purely an academic exercise.

MR. ZUCKERMAN. I think your future experience with HUD will also indicate the problems of cost which will come to bear. I hope there might be cost savings involved in one approach or another. I hope we have at least learned that much in the last hundred years, Mort.

I really would very much recommend that you do get an analysis of just what costs are involved, because you do have trade-offs. You want to find out what your dimensions of cost are. You might say, "Let's just disregard the whole question of cost", but even in experiment I just can't conceive that this is going to be disregarded. It starts with the research grant to prepare the experiment, where cost becomes so important, and it gets much more important when you take your 91,000 and you multiply it by 100 and you are talking about those kinds of dollars. Your costs are going to become very critical. In terms of wanting to be able to do something, this was our concern in the legislation; you

wanted to get at least some important measure forward in terms of sponsoring New Towns. I don't know about the rest of you, but I don't want to spend all of my time working as a developer and not have anything done after ten years.

I think the same thing is true for the people in design school. They have got to relate to the factors that are going to be critical in the decisions that are made in the field, and unless they take these into account---and cost is certainly one of the critical ones---I would be very pessimistic about the consequences of these kinds of studies. The whole program gets distorted. I can walk away from this and say, "What is the relevance? Where is the relevance of it?"

FROM THE FLOOR. Isn't the reason for building a New Town to create an improvement in urban living? Do we have any evidence a New Town will do this any better than some other technique that we have at the moment? Do we have any evidence that New Towns like Brazilia or Cumbernauld are better for the people who are living there than, say, Glasgow or Rio?

CHAIRMAN. Peter Willmott and others in Great Britain have been doing studies of British New Towns on exactly that question, and there are some preliminary results now in. [See, Journal of the American Institute of Planners, November 1967, pp. 387-397.]

Thank you all for coming. We will see you this afternoon.

V. SUMMATION AND DISCUSSION

William Wheaton, Acting Moderator

William A. Doebele, Jr.
Donald A. Kennedy
Wilhelm von Moltke
William W. Nash, Jr.
Dean Jose Luis Sert

MODERATOR. My name is Daniel Patrick Moynihan. I have shrunk a little bit, and I have doubtless lost some of my joyous Irish personality, in the course of climbing out of a plane which flew over here a little while back, and couldn't land to let me down. I hope that you will bear with me in this pinch-hitting role that I find myself in, on very short notice.

It is a great pleasure for all of us to be here, back in Cambridge again, and we are deeply indebted to Dean Sert and Vice-Dean Doebele for their initiative, years ago, in establishing the tradition of the Urban Design Conference, of welcoming back loyal and truly indebted alumni and friends and designers from all over the world to grapple with the current issues of the day. We are all indebted to you for having turned out in such startlingly high numbers and superbly high quality to observe this conference and to comment on the work of the faculty and the students.

Further, I think we should acknowledge the perspicacity of HUD in having lent minor but critical support to this school effort, and I am sure that you all join me in the hope that that kind of support will continue, to explore further the issues which we will summarize this afternoon and to advance both our knowledge and

national practice in this field.

Twenty years ago, when I owned a house five doors down Hilliard Street, there was a similar concern with the issue of New Towns and new cities in the School. We laid down a series of studios over a period of about three years, to try to investigate the New Town concept, then in process of adoption as national policy in England, and what that policy might mean in the United States. Walter Gropius and Martin Wagner came forth from their studio with several perceptive new configurations of towns, which stimulated the students in succeeding generations to look at other configurations---higher density, mixed density, more traditional and less traditional in their overall applications of the elements of a balanced community.

It is now another generation---a generation in which the population of the United States has grown by 50 million, in which we have added approximately 60 per cent to the area of our urban communities, in which our level of prosperity and affluence has increased more than 100 per cent, in which we have engaged in technological developments beyond anything we dreamed of at that time, in which we have had public policy developments in housing, in welfare, in education, social security, health and government aid and technology, beyond anything that we had included in our plans of those days, and in which, despite these magnificent achievements, we still have with us the massive problems of segregation and of poverty which so obsess and concern the nation today.

It is another age, and it calls for new solutions, and we are indeed indebted to Harvard and the School of Design for having brought together this prototype design, and the issues embedded in it, for our consideration. In my closing remarks I will make some comments on their possible significance for national policy.

In this session I am first going to call on each of the Panel Chairmen to summarize the discussion that occurred this morning, the issues brought out and the conclusions, if any, reached by each of the panels. Wilhelm Von Moltke will discuss the physical-form issues.

WILHELM VON MOLTKE. So many issues were raised by the panel that it is practically impossible to summarize. Therefore, I will just raise a few of the points which were discussed.

First, some doubts were raised in relation to growth and transportation. There may be more favorable locations in the Eastern Seaboard. But it was accepted as one of the constraints of the study that it had to be, although prototype in nature, close to the Boston area.

There is a certain dichotomy in the plan between the automobile-oriented aspects and the pedestrian-oriented aspects. First, the shopping center is formed primarily by the fact that it serves the region. In the pedestrian city, shopping is more dispersed and more varied. However, it was felt that the device of using the need for regional shopping centers is of such tremendous importance and so ingenious that one could accept this dichotomy and live with it.

The question was raised about feed-back from the experience in the first stages. This relates very much also to the speed of development. It is obvious that if you have high-density, you have less possibility to accommodate new institutions, because of the physical constraints. However, the shopping center in the service

center was achieved with a very flexible system. It might be worthwhile to make the shape and trade-offs within the residential area more explicit.

Dr. Kennedy raised yesterday the spectre of insanity caused by high density, and we spent some time discussing whether comparion of humans with rats is appropriate. We pointed out that since our densities do not exceed 180 persons per acre, and since densities in Hong Kong are 2,000 persons per acre and in old Berlin 800 persons per acre, we are really not endangering the population.

The question of social interaction was raised in relation to density. (It was very difficult, by the way, to discuss form without treading into the realms of the other panels.) The finger was raised at the designer that he thinks he understands it all in social interaction, but everybody agreed that it is extremely valuable in this social realm that the child can move throughout the city all by itself and can therefore learn more quickly about the world, speed up the whole educational process, without the mother having to worry about where it is.

There was some discussion about the moving sidewalks, whether this was a device which was in contradiction to the idea that the public space is really a meeting-point, since you pass by in a predetermined channel without being able to chat to your neighbors.

It was felt that high-speed development, telescoped development, would be desirable, firstly, because of the easier financing, and secondly, for creating sufficient urban mass to attract people to this urban environment. We felt that a period was required of five to ten years, to really create the benefits which we are striving for. On the other hand, this makes changes and feed-back from the previous experience more difficult, and therefore it will probably be necessary to take a big leap right in the beginning to get a certain capacity and then get your feedback from the experience in the next stage.

The question of privacy in high density was discussed; and it was pointed out that privacy could be achieved through design. The question is then raised, "At what cost?" and this certainly would have to be identified in any continued study.

I think these are the major points.

MODERATOR. For the next discussion, on regional context, Bill Nash.

WILLIAM W. NASH, JR. In our particular session, what we were after was to have the panelists begin to identify the kinds of problems that such a new community as has been designed in the Harvard effort may actually create.

We started out by asking ourselves two questions: Why should there be a New Town at all in the Boston region and what were the kinds of regional economic pros and cons towards having a New Town such as the one that we have conceived at this time.

Now, as far as the first question was concerned, as Willo has already pointed out, they came to the conclusion that, yes, there could be other more favorable locations than the Atlantic urban region, in the western part of the United States or elsewhere, where New Towns of this kind or modifications of it---in terms of the income of the residents or the density or transportation

factor supporting it---could be made. In fact, one of the things that we were trying to do in this New Communities Project was to develop a methodology that would allow us to explore these alternatives not only in the Boston region but elsewhere.

Then, why a New Town, in the Boston region in particular? First of all, the positive reasons. It is anticipated that within the next 20 years there will be an increase in the population in the Boston area of at least 1,200,000 people, 400,000 of whom will probably locate south of Boston in the area in which we have placed the community. Second, there will be almost double the job opportunities in the Boston metropolitan area. Many of these would select the intersection of Routes 495 and 95, particularly since Route 95 connects with the New England Thruway to New York and the larger Atlantic urban region and the rest of the United States. The third positive factor was the transportation pattern within the new community that would facilitate and lower the costs to the moderate income population of the journey to work, for recreation, for shopping, or whatever. At the same time, the regional transportation pattern is such that should a more favorable job be available elsewhere in the Boston metropolitan region, it could be readily accepted by somebody from the new community because of the road pattern as well as the mass-transportation pattern that is developing.

The fourth factor is that by having a higher-density community there would be a definite reduction in the costs for sewers, water, streets, a whole series of things. This would be reflected in a much lower tax rate than you would ordinarily anticipate in a community of this size, given the current bundle of taxation. Admittedly, other costs may be higher. I will continue with this question later.

The fifth factor that was considered very encouraging for a new community was that there would be a conscious attempt made through the heavy emphasis on education to have a proper manpower-training program which could offer some kind of coordination of the industrial-development program by guaranteeing that there would be a labor force trained for the particular jobs that employers would make available at this site because of its transportation advantages.

Now the negative factors. A disadvantage of this particular site was that ordinarily this location would attract a great number of research and development jobs---electronic manufacturing and things of this sort---and this is not the kind of job that would ordinarily be used by a moderately skilled population.

The second negative factor is that in order to achieve the objectives that we had in mind, there would have to be a considerable amount of public subsidy, first in initial capital construction, in order to overcome the cash-flow problems that you have with rapid development, but, secondly, in terms of ongoing support for rent and for the higher set of standards for services, such as education.

A third factor is the question of whether or not a moderate-income population could be voluntarily attracted to a high-density community of this kind. Would the style of life that is here, that depends upon walking and a whole series of other things like that, actually be attractive to people from Roxbury, South Boston, Dorchester, Hyde Park, Kenwood, or Brockton?

A fourth negative factor was, would a New Town of this scale compete with existing communities? Would having 200,000 people in a regional center make it more difficult for Brockton and for Boston to continue to exist as viable communities and offer their residents continuing service?

And a fifth factor, in the same spirit, would a major regional shopping center, if developed at this site, reduce the kinds of business or shopping opportunities that are available elsewhere?

Let me point out that each one of these negative factors represented to us a challenge for further research. We think that we could overcome most of these obstacles at the current stage. But we recognize that there would have to be a series of studies undertaken to try to confirm or deny the kinds of assumptions we made about the New Communities Project.

I have here a number of questions that arose both from the panel and the audience. One of them was, What are the actual economies, particularly the interest structure, from a rapid rate of construction, categorized according to each one of the facilities that might be constructed at a rapid rate?

A second question was, What are the added costs for services that you have in a high-density community? For example, would fire protection or the distribution of goods be more costly?

The third question was, What is the relative subsidy or the net subsidy that would be required for providing for this kind of population in a high-sensity new community? There are subsidies for this population, <u>in situ</u>, wherever they are living at the present time. Do we expect the subsidy that we offer in the new community to be more or less than the kind of subsidy that is now being offered to these people? And what is the possible reduction of subsidy if the new community is successful?--- again specifying what kinds of subsidy reductions they would be, and therefore which level or aspect of government or private charity might in fact experience a lessening of their costs.

Another question: what is the relationship of technological advance to the rate of the development proposed for this high-density community? Are we in fact preparing a community in a set of technological devices that will be outmoded 20 years from now?

Another one: what are the impediments offered by the regional context, the legal and social impediments, quite beyond the economic ones? For example, can you create a new community government here? Can you provide an area-wide hospital in this location? Can you provide for a college in this site if the state wants one? The state intends to launch a major program to more than double its educational opportunities in the next few years. Obviously they are going to have a great deal to say about where these colleges are going, and a college or university at the New Town would be desirable from the point of view of the population.

And then another question: what are the other possible forms in a metropolitan area? One of the people in the audience wondered whether it wouldn't be more viable to have ten smaller communities of 20,000 along perhaps Route 128. This would bring people closer to their place of work as jobs are dispersed throughout the

metropolitan area.

All these are questions that should be investigated. What we would like to think that we have done in the New Communities Project is to devise a set of investigative tools that can begin to answer these questions, not only for the proposal that we have before us today but also for any other alternatives that might be undertaken in the future.

MODERATOR. Thank you, Bill Nash. I notice that in his enumeration of the advantages of this regional context, Bill did not mention one that he might have mentioned and which might have been suggested by Ken Galbraith's remarks in the beginning of this conference. The reason New Towns are on the national agenda today at a higher level than ever before is not so much because of their rationality as because some men, one of whom is here today, Bob Simon, decided that they would build a New Town, and thus put it on the national agenda. And surely not the least advantage in the regional context here is the presence of Harvard University, the School of Design, and the charged-up designers and students.

To discuss the community process, the question of whether or not a market could be attracted within the social framework proposed in the study, I introduce Don Kennedy.

DONALD A. KENNEDY. This was a very lively morning. There were several surprises for me in our interchange, between its actuality and what we had rehearsed and hoped might come out.

I am a rural boy. I grew up out in the sticks, 35 miles from Boston, and I presently am raising my own family 35 miles out in the sticks. And here, among people who have little by little over the months of interaction convinced me that there is a tremendous excitement and tremendous positive value in the core of a city, I heard a large set of cries within the group this morning, saying, "Who wants all that density? Who wants all of that variety packed within easy walking distance?" I was a little surprised. I guess I had gone through a certain kind of conversion over the months, and I had assumed that most of the people present were already convinced that the city is an extremely exciting place, that if we can get rid of certain obvious problems that anyone can enumerate we will be able to---well, have a nice, clean slate to create a new kind of city.

There was a tremendous dialogue back and forth on the issue of reality and on the issue of power. It looks like those who have traditionally and conventionally held the true power over decisions having to do with the man-built environment are being seriously challenged in this regard. There are a whole series of people who want in; the students want in, and the inhabitants, the residential population, want in.

We received very sharp criticism this morning that this room does not contain membership from the actual population that we have in mind in working on this problem, that the people who have a tremendous advantage in terms of income and material goods and education are increasingly distant from those who have little or none of this, and that this polarization of people and intense hostility that is generating in this land has got to be bridged in some way.

It was meaningful that there were a series of

questions raised on work and jobs, but we wished to discuss the issue of education as a major goal, and the problem of health and health services. People wanted to know, "Where are the jobs?" I think that this is a valid point, that in effect we have not talked about the most critical part of the lives of most of the people that we have in mind who will come to this place.

The point that Ken Galbraith presented yesterday, that is, the problem of how to unlock a system of values in this country that is built around the economics of how to make money and how to handle what economics has traditionally been concerned with, was a key part of the discussion this morning. Yesterday, Professor Galbraith suggested that esthetics was a positive value that could in effect come to supercede economic values as we have traditionally understood them. I have given this quite a bit of thought as a personal matter; some of us working in the medical school and in the health and medical-service field have found that under the umbrella of health and safety you can promote many improvements in the general environment, both built and unbuilt, which in effect move much in the direction of the esthetic traditions and interests of the people in this field. It seems to me that both health and education give us a tremendous opportunity, because they are anchored deeply within the value system of the American culture. Therefore, in addition to promoting concern for esthetics, we can go a long way by promoting concern for health in the broadest sense, and for learning in the broadest sense.

Another criticism raised this morning was that education continually discussed the child and didn't talk about the adults. It's very clear that all of us today are having to scramble and and continue to learn in order to keep up with the kind of society that we just happened by historic accident to have been born into at a certain time.

There is one other factor that we have overlooked in talking about a community; even though we have talked about regional context, we have forgotten about our tremendous interdependence with the society in which we operate and the emergent world society of interconnected events. If we have learned anything from the assassination of Senator Robert Kennedy, and from other events that have occurred in recent years, it is that there is a tremendous interconnection provided by the wonders of television and jet aircraft. Therefore, the issue of the relationship between the black people and the white people in this country represents a major consideration that we have to encounter directly and within all of the creative and constructive scales that we know in this new community.

In thinking about the ability to walk and have the children be able to roam in the city with the mothers and fathers feeling perfectly comfortable about their being on the loose---I could imagine getting rid of the automobiles, but I also think about the real fear that I might have walking through a park where I might be physically attacked, harmed, killed, robbed. We have not had any detailed discussion on how we are going to avoid just exactly that issue, but it has to be considered within the context of the whole listed approach to the problem of this new community.

We have all lived for a long time with a division of labor and departmentalization of profession and discipline which we can no longer tolerate. One of the truly exciting features about the

discussion this morning and about all dimensions of this conference, for me personally and for many of the people I have talked to, has been the tremendous excitement of being able to reach out across fields of discipline and specialized knowledge and recognize that we have a permissive framework in this conference that allows us to talk about problems that normally we would have kept in some particular little compartment.

If there is anything that is disquieting and upsetting and causing restlessness among the American people today, it is the fact that their particular pattern is breaking apart. A new kind of participation must emerge, the kind that we hopefully have begun to explore in this conference. It must be expanded to include the people whom we hope will take seriously the proposal of joining us as residents in a new community.

MODERATOR. In speaking of the waste problem, Dr. Spilhaus said that mankind used to think about just throwing things away, but now, in this age of space and congestion, we suddenly realize that there is no "away."

Each of the preceding panelists has thrown doubt upon the credibility or the possibility of implementing a program of this sort. The saints have happily provided Bill Doebele to supply a discussion on this point.

WILLIAM A. DOEBELE, JR. I am not sure that I should thank Bill Wheaton for that introduction, in associating this subject with waste disposal.

I want to apologize in advance to the panel members and the audience for the rape of their ideas which is now about to occur. My own prejudices have definitely crept into the presentation I am going to make. I will try to identify them as much as possible, but I am sure I won't do it entirely.

[Mr. Doebele gave a very exact and full report of his panel's work. The following is a digest of that report, plus his additional comments.]

We tried to deal with four subjects in our panel: The question of the capital that is necessary for these tremendously costly undertakings called new communities; the questions of land-assembly and eminent domain; the question of providing services ---who builds and who pays for them?; and, finally, the question of control---how does one combine the kinds of controls the developer needs with the kinds of freedoms which seem desirable in a democratic society?

We started out by trying to talk about capital. However, the conversation immediately turned to cost. It was alleged that the New Communities Project, although it was presented as a low cost, low income alternative, was in fact a high cost, high income town, that compactness costs more than non-compactness or low-density, that the on-site costs which were economized in this project, as the lengths of road and length of sewers and so on, were overrated savings, and, indeed, that the off-site costs are the major ones and would not be affected by this.

These allegations were rebutted by someone who pointed out that the subsidy structure of the country presently favors low-density, single-family developments, and that we have already built highly subsidized situations into the cost structure. Studies in the United Kingdom and in Canada by the Royal Statistical Society and others have shown that four-story walk-ups are a very economical method of construction if you deal with the different subsidy system which exists in

those countries.

Whether on-site or off-site are the major costs apparently has a great deal to do with the particular location of the town.

We had a very interesting comment from a gentleman from Montreal, who pointed out that the Nun's Island Project now going on there is a high-density development dealing with many of these same problems in the real world, and that they had been able to trim some of the things which would have added to the cost of the New Communities Projects even though they had high-rise buildings.

Mr. Von Eckardt pointed out that, even if the New Communities Project did have costs that were somewhat higher than equivalent low-density projects, that it may be time for us to re-examine the whole subsidy system in the United States. The real question, Mr. Von Eckardt said, is to determine whether this is a better environment. If it is, certainly it should be built and tested.

Robert Simon then said that he thought it was wrong to calculate the cost of the density in terms of the cost of building the structure, that the cost of density is actually a mixture of three factors---the cost of the building, the transportation cost, and the time cost of the population that uses it---because if you increase density, presumably you can decrease transportation costs and also decrease the expenditure of personal time. These are factors that must be balanced off against additional costs, if any, for high-rise structures.

I think the panel agreed on three conclusions. First of all, our ignorance of how to cost something like this is really appalling. Secondly, it is imperative that HUD and the universities generate many more hard facts on density-cost relationships. And, thirdly, that this project, if it is to be meaningful and realize its full potential, must state cost alternatives; that is, if a ten-minute walk costs so much, how much would the savings be if it were a 15-minute walk to the center? Only then could you state the possible trade-offs. For example, if a 20-minute walk would save ten million dollars that could be used for educational or social welfare programs, you could begin asking whether the walking time or the education was the critical thing.

Morton Hoppenfeld argued forcefully that the design process does not really begin until the designer is forced to make such trade-offs, until he has the information to know what they are and resolve them in one way or another. My own comment was that one of the objectives of the New Communities Project, which was conceived as a two-year project, was to do precisely this in the second year of its operations.

Someone remarked that New Towns had never been tried in America, and that Valencia, Irvine, Foster City, et cetera, are not New Towns at all, but glorified suburbs. Someone, of course, then asked Morton Hoppenfeld if Columbia was a glorified suburb or a city, and Mort rose to his defense very eloquently, said that it certainly was a city, if only because the people who now live in Columbia believe it is a city, and in fact are participating in a process of organization which is extremely meaningful to them. He argued that a city does not have to have density to be urban, that a city is an array of urban institutions.

Mr. Von Eckardt disagreed very thoroughly

with this, saying that a city must also include an image. The image is as important as either the physical structure or accompanying institutions; there is a sense of urbanity which is impossible to create if a city is spread too much; and we will not know until we try other forms whether this proposed city or Columbia is the most urban city.

It was on this note of experiment that everybody began to agree that we needed a great variety of choices. We must experiment; but experiment should have very tight definition---this means having control elements and monitoring the results very carefully. This New Communities Project we see is not an experiment until it is subjected to this kind of scientific discipline. Indeed, of all the things that have been carried out, both in Europe and in the United States, there has been very little monitoring the results. The studies that Peter Willmott and others have begun to do in England are the first attempts to go back and see what the results of certain elements are. The government must promote this kind of testing.

It was pointed out that the New Communities Act of 1968 will encourage innovation in new cities design, but not necessarily experiment. As a minimum requirement, the Federal Government on all projects of this kind should require the keeping of comprehensive data so that it will be possible to establish feed-back.

The 1968 Act provides for a $50 million cost-revenue debenture for the developer of a New Town, with a maximum time of 15 years. It provides that there need not be any money paid back until revenues begin to exceed outlays, which normally happens in the seventh or eighth year. It provides that land can be sold without changing the terms of the debenture in the intervening period.

We talked about the adequacy of this to really stimulate New Towns. Robert Simon argued that although this was a progressive piece of legislation, it did not go nearly far enough, that if the United States wanted to move in this area we must establish a land-bank, public ownership of large areas which would be retailed to developers. Everyone immediately pointed out that this was politically almost impossible.

Wolf Von Eckardt then made a strong plea for a National Settlements Policy, such as exists in the United Kingdom and Holland and most socialist countries. One of the interesting things that is happening today is that Yugoslavia is calling on American planners to go to Yugoslavia to help that country establish urban settlement patterns and regional plans which we are unable to do in our own country. Until this is done, every new community will be subject not only to the problems of its own financing but to the threat of disastrous competition.

It was pointed out here that this New Town could fail by someone coming in beside it, building up the land and putting in a lot of single-family houses which would destroy the market for this town very nicely. It is the problem that is now being posed at Reston by the Keyes, Lethbridge and Condon development just a few miles away.

The question of eminent domain: We asked our experts if it were still possible to assemble large pieces of land in the United States without eminent domain. It was concluded that this is quite possible if the money is available, but also that the magnitudes of the problem are much too great to count on this as a reliable way of

meeting the problem. Therefore, everyone agreed it would be very useful if eminent domain could become a reality.

Then someone pointed out that the problem of land in new cities is not getting the land, but getting the local controls on that land removed so that it is usable for a New Town. If we had to make a choice between eminent domain and such type of power as Ed Logue now has in New York to remove local controls, certainly the latter would have a much higher priority.

A question was raised by Mrs. Kostritsky as to how to introduce the New Town residents to low income populations. A very interesting comment was made by Mr. Rosen the Levitt Company, that their own experience in attempting to deal with the problem of heterogeneity in their developments was almost absolutely dependent on first having some mechanism for the total equalization of educational cost; that is, freeing educational costs from the local tax base. He argued that one could have neither a heterogeneous population nor effective citizen participation in a New Town unless some mode of making educational costs supported on a county, state or Federal equalized bases was possible.

On the architectural aspects of the project, Mr. Poorvu said that we must be very careful that our experiments are not merely extensions of our own prejudices. Mr. Hoppenfeld pointed out that the young people in Columbia had been very turned on by the new city, in spite of low density, because they had a sense of tremendous involvement in building something new. I think in our city, too, provision is made for this kind of participation.

With respect to freedom and control, there was an argument for the maximum amount of decentralization. There was a very interesting description of how this occurs in Columbia, where there is a great deal of adaptability and a discussion of the problem of how one deals with a non-existent consumer to devise something for him before he comes on the scene.

Finally, there was criticism of the presentation itself in general terms. It was felt that it was too architectural and too detailed, that it should have attempted to deal more with the strategy of building a town rather than going into quite this level of specificity, and that it should have illustrated strategy rather than giving the appearance of a site-plan. The real problem, it was held, is the question of developing design rules and method of trading-off various alternatives, instead of doing a single overall design. There was praise of Neal Mitchell's presentation, as being one that married strategy with a great deal of specific information. I take it that this does not mean that there should not be very strong images and key elements in such a plan, but that it could have been presented in such a way that adaptability, which I think the team wanted itself, would have been more evident.

I might say that there were severe constraints imposed here by HUD itself, which for its own internal purposes wanted to get from this project some very specific plans, models and images which it could use on a very tight scale.

Final conclusions of the panel were that this was a very exciting project; that it was important to have design alternatives; that design had been far too limited in the United States and even in Europe. There are many alternatives that have not been explored, including this one.

At the same time, it was felt that until this one could be backed with more cost information, the exploration was still short of its potential. I think that the feeling of the panel would have been unanimous that it is essential that this project be continued and that as much of this kind of exploration as possible be done in a second year.

MODERATOR. Thank you, Bill, for that very thoughtful review.

I wonder if we have laid the ghost of esthetics here. I have found much support for my feeling that esthetics can take us far away from our objective, but I am still very much alarmed by the fact that the man we admire very much who spoke yesterday, John Galbraith, was under the impression, I believe, that cities can be saved and that new cities can be built primarily by means of emphasis on esthetics. The point I want to make is that we either have to redefine esthetics so that it includes social and human values in a much bigger way---which I don't think it does, according to common usage---or I think we have to stop telling the public and emphasizing in our own thoughts and actions that the cities need the fine arts when really what they need is fairly humble things like safety, livability, convenience, light, air, trees, blue sky, and so forth. I bring this up to see if we feel that esthetics is still triumphant or whether we have firmly in our minds the fact that fine arts is fine but social human values are really what we are after.

We had the example a few minutes ago of Mr. Kennedy, arguing with great eloquence (and in effect summarizing the view of the educational leaders of the medical profession) that human life has an unlimited value. That's the posture of the profession. And, at least until we get full-scale Medicare, every doctor has an obligation to expend an unlimited amount of energy and resources to preserve each life. Now, when we do get Medicare, we will doubtless put a budget limit on that---say, "No, you're not allowed to spend two million dollars to preserve each life, because that would use all of our resources."

I do think it is true that the design professions have succumbed too often to the arguments of utility, have too often tried to argue that what was pleasant and attractive as well as functional had to be measured solely in utility terms. What Ken was saying is that economists have a class called "merit goods." Fresh air is a merit good---the last five cubic yards of fresh air get to be very valuable---and economists can't measure how valuable. Design standards which make communities livable but, more than that, which evoke pride and happiness and a sense of community, are not readily valued. Those dimensions have the characteristic of merit goods; they may be argued for on their own merits. We do not do it enough.

I think Ken Galbraith was misunderstood to be making a plea for superficial beautification, which is certainly not the case.

MR. KENNEDY. I would like to tell about an experience that a physician colleague of mine, Jack Geiger, had when he attempted to launch a comprehensive health center for Mound Bayou, Mississippi.

Tufts Medical School, with the assistance of the Office of Economic Opportunity, now operates such a center in the town of Mound Bayou in Bolivar County in the Mississippi Delta area. It was very apparent after the team was assembled

and on the site, about six months ago, that the critical area of concern was food. So the physicians in their budget, under the general guidelines of health, were in effect writing prescriptions which had to do with food. They were ordering tractors and fertilizer and developing and organizing an agricultural coop, because here was a population living in shacks on some of the richest soil imaginable and yet starving to death. And the whole development then proceeded to develop a cannery facility. The response has to adjust to the priority of the needs felt and experienced by a population in a particular area.

We have come through the same kind of experience at Columbia Point in Boston, where there is perhaps more concern about the issue of a good job than there is about good health. We must recognize that health is down about the sixth position in terms of expenditure in personal household income. It represents only about 6 per cent of the GNP. Although some people in the Public Health Service assume that it's going to grow to 25 per cent, the experience in other Western developed countries is that it doesn't usually get above 6 per cent. So it is important to be able to accommodate your strategy to felt needs within the general appreciation of the points that you are making.

FROM THE FLOOR. I am puzzled about the neglect of industrial development in the proposal put forth. One of the major problems of our present suburban development is that, given our present property-tax base, there is insufficient tax basis in residential suburban developments to support community services and facilities. It would seem to me that for industrialization to precede urbanization would bring about a more healthy economic community than trying to begin with a regional service center.

You may have concluded that you won't have a sufficient labor pool unless you have the residents before the industry, but I wonder if there is not already a sufficient labor pool in the area to make a start on industrial development. Once you have some industry there, you can develop residential.

MR NASH. I am afraid that the neglect is more in communication through the conference than it has been in terms of our concern for industrial development.

We anticipated that there would be two major kinds of development activities prior to residential development. One would be the regional center; the other, a major industrial estate. These would be under the same municipalities, so they would support the tax base. This would begin to provide revenue flow and jobs at the time of population arrival.

We investigated the kind of industrial job opportunities that would occur, and we conceived that roughly 32 per cent of the jobs would be in the manufacturing category. However, at the present time, the kinds of manufacturing opportunities that would normally gravitate to that area will probably be the R & D kind---electronics, manufacturing, and so on. Therefore, we proposed a major industrial-development program, a large part of which would be a manpower-training program, so that we could begin to lure jobs in manufacturing activities into the area prior to residential development. Then residential development will parallel that.

MODERATOR. There is one other aspect. Why wasn't the industrial area incorporated within

the central boundary limits of the city itself?

MR. VON MOLTKE. The idea was to give the inhabitants a choice of employment. Route 128 is very close; you are only 23 miles from Providence; you are 42 miles from Boston. In addition, on the eastern side of Route 95 is projected a large industrial park. One-third of the total employment will be right in the regional core. It was therefore not required to provide this industrial development right in the city, where it would have had detrimental effects in terms of compactness.

MODERATOR. Bill Nash states that the industry would still be in the same corporate boundary. I find myself wondering whether this isn't a 1920-style attitude toward industry, not incorporating industry right into the neighborhood.

FROM THE FLOOR. No consideration has been given to the place work plays in the life of the individual and the community.

MODERATOR. In one other panel that point was brought out, that if you have a community as an educational system, it becomes all the more essential that some industry be incorporated into the city in the normal places of circulation of the people, and particularly the young people.

FROM THE FLOOR. I thought that Shadrach Woods' statement to us last night that we should stop worrying about other people's problems and other times and start worrying about our own was really a keynote.

It seems to me that we can no longer take the time and the luxury of making assumptions about our most serious problems. We cannot assume, for example, social interaction, when the essence of our times is really social confrontation. Urban research has got to get out of the habit of simulating political and social and economic environments. It must go into the city, into the real laboratory, and begin to do research based on the real problems. Would it not suggest that in the next year of your research you should be required to go and face the kinds of problems that you have made assumptions about in the first year?

MODERATOR. Let's ask Don Kennedy if he wants to take that on.

MR. KENNEDY. As an anthropologist, research to me means in the field, and observation, and participation, and it doesn't mean highly experimentally designed structures or questionnaire surveys. It seems to me a very legitimate proposal that there be a much closer back-and-forth between the research group and the kind of field location that we have been talking about.

We should take one of Neal Mitchell's portable classroom structures, along with some drafting tables and shelter space, right onto the site and begin to engage with the natives. There are some people who own and control that land, and have for many, many generations, and they might have some ideas about what we propose to do with this land. This is part of the new way of passing through traditional boundaries between the so-called educational community and the real world. I think a tremendous amount can be learned this way.

MODERATOR. There is another aspect that I think deserves mentioning. Many of the elements of a project like this can be broken apart and tested as separate elements, particularly in the present city core, where you have a client group whose

responses, both in planning and in use, can readily be measured.

If there is a sharply distinguishing feature between the American style and the European on this, it is in their greater willingness to conduct such live experiments; and the experiments now going on in all of the Mark I New Towns with the construction of high-density, low-rise residential areas on the Cumbernauld model are giving them data for the Mark IV New Towns.

MR. DOEBELE. You might also mention, Bill, the polar projects, where we have cycled it now twice, taking the results of the first settlement pattern, studying its social consequence, using that to revise the second round of settlements, and are now in the third phase, of reexamining the second experiments and refining the social and economic cost. In each of these cycles they worked in a careful and systematic manner.

MODERATOR. In addition, there are probably unrecorded experiments of almost everything we can imagine. I know in the Bay area the students said, "We don't know whether people would buy mixed dwelling types, particularly row houses, in an environment of single attached houses." I say, "Baloney. You don't know your local housing. There are six projects that have been built and merchandised in which you can find each of the design features which you have enumerated, and you can go out and see the behavior from those projects."

FROM THE FLOOR. The English experiments receive very little feed-back, because they are conducted by a completely paternalistic structure which receives almost no direct participation from the people who live in the towns or the people who are going to live in the next town.

Also, it seems to me that going-into-the-field is impossible to do in Foxboro, because you cannot build a structure and pretend it is part of a town for 200,000 people; you can only do it in existing cities. How can you conduct this kind of research?

MODERATOR. I think you can start in central cities, though you cannot exactly duplicate the interface between features which is laid down in the town. You can study the characteristics of many of the features---walkway systems, Neal Mitchell's housing types, the density types---but not the interface between those things.

FROM THE FLOOR. What is coming out of this conference seems to be the suggestion that we learn to communicate with the different fields and with the people out in the field.

MR. NASH. I think that you're very right there. One thing I think, though, that has to be taken into consideration is that before you launch into the kinds of experiment that Bill Wheaton has been talking about in a central city, which would be interprofessional and interdisciplinary, you have to go through the phase of articulating what are the measures that we are looking for, to find out whether the experiment is something that is positive and should be continued, or is negative and should be dropped.

Inevitably, if we begin building these New Towns, we are going to have to go into an experimental phase. But before you go into the experimental phase, you ordinarily go through this highly theoretical process of formulation of hypotheses, design of experiments, the compilation or composition of the team that should be undertaking

these experiments, the best places to do them, and so on and so forth.

As far as I am concerned, this New Communities Project has been most exciting, because it has been doing all of that. We have a Don Kennedy here who has been working with us, and people like Walter Isard, and other people; tremendous enthusiasm has been generated in Harvard University and the Cambridge community about the possibilities inherent in this; and from it we are beginning to develop some common language and framework and methodology for really beginning to spell these things out.

MODERATOR. There are at least two others in the audience who have had recent or very interesting experiences in interaction with client groups and trying to find out what the values are. Could I ask Jose Villegas to talk?

FROM THE FLOOR (Jose Villegas). In Cornell we are working on a small project on cities of the future, and I am very interested in these value aspects.

My first reaction was that the theoretical exercises didn't really look at even the beginning of relations of future values or future alternatives. Maybe the problem is to invent a future and discuss the possibilities. For example, maybe the solution for the poor is not ownership,but a new form of ownership, of cooperatives,---the idea of land-bank was mentioned. This is one problem of future value.

I would say that today theoretical exercises are a sort of regression, because when we have the last summer, what is coming to us today? We don't have on the stage here today representatives of the Negro or Puerto Rican communities. But they should be here.

I think we should keep this experiment, but I think we must examine very carefully the rules we follow in making such experiments.

MODERATOR. I would like to ask Norm Klein if he wants to react on the same point, since he is engaged in a very important experimental design problem in Baltimore.

FROM THE FLOOR (Norman Klein). To pick up from this point, the other person who would be on the stage for this kind of confrontation in this town would be the County Commissioner of wherever it is, and the Mayor---the decision-makers, who will resist this town.

I am involved now with a project where a highway in one of the eastern cities will begin to displace (together with other public programs, like urban renewal) about 70,000 Negroes in the next eight years. There is no existing legislation to deal with economic problems. There is enormous prejudice in the city, and the surrounding county won't permit these people to go there. The whole lack of my having heard anything about dealing with this kind of political-science reality is impressive. I think that this project, if it is to proceed seriously, had better face up to this whole national crisis in terms of the political time-bomb that we've got.

MR. DOEBELE. On this point I think I should mention some experiments several of the members of the class in architecture here are doing now in the ghetto directly with people, under the direction of Neal Mitchell. They are investigating in general the question of low-cost housing---presenting to people the possibility of constructing models of the kinds of houses that they

would like to live in. Neal has already done some of this in Detroit as preliminary studies to the work that he is doing there with HUD, and it is now being done here in Boston as a student project. In it, people begin to arrange rooms and housing configurations which precisely meet the kind of life style which is appropriate to them.

Even at this preliminary stage, one conclusion seems to be, for example, that the dining-room is a totally meaningless area as a separate room in the minds of many people who would be affected by a town of this kind. At the same time, these students are also investigating the configuration of the block, the distances between houses, what kind of problems one gets into by going to two- or three-decker houses. For example, the question of the three-foot division between three-decker houses, which is typical in Boston, which loses a great deal of heat, which doesn't give much privacy, which most of us, I think, would tend to eliminate, in fact has a very high value to the people who were asked about this and were asked to actually produce their own arrangements.

Another level of model is being tested at the same time. It has to do with the configuration of the entire neighborhood---where the important community facilities are located, having people place the transportation links that they would like to see. Again, some very surprising conclusions emerge. For example, there are some indications that many low income people would prefer not to have educational institutions distributed in our typical way---elementary schools within walking distance, then junior high on a larger circle, and senior high on an even larger one---but rather many of them concentrated together, because if you are dealing with the problem of getting seven or eight children to school who are of different ages, there is nothing more awkward than taking them to three or four places.

The next step in this process, I think, will be to introduce the gaming technique used in North Carolina of giving actual monetary constraints, so that one has to pay for these decisions and allocate a limited resource. John Turner has, I believe, done some of this in Lima, with quite extraordinary results in terms of providing actual housing types which can then be put into production and which are very different from the kind of preconceptions that would otherwise be built.

MODERATOR. I would like to add that at Berkeley we are engaged in a design survey of slum areas conducted through volunteers and students. This has not only the virtue of bringing the students into contact with population, but bringing back to school new perceptions of what the problem is.

In the long run I am sure you will agree with me that we are not going to solve these problems rapidly enough until we have both students and faculty from those areas working with us as colleagues in the schools.

FROM THE FLOOR (Walter Isard). As some of you know, I greatly espouse long-term research. But I think the central thrust of this project is that there are problems and that at some time you must amass the knowledge that you have and attack those problems with what you have. I think that we have accumulated enough research findings to attack the problems without the restrictions that the so-called economics seem to have imposed upon urban design in the past.

I would encourage us to think in terms of experi-

mental urban design that can be put into effect six months from now, a year from now, but certainly not two, three or four years from now, because that may be too late.

MR. DOEBELE. I am always disturbed at the end of conferences of this type by the mood of self-flagellation which seems to be so popular amongst members of these assembled professions. I think it's terribly important to resurrect one of Mr. Galbraith's points, for a moment. All of us here should retain pride in ourselves as designers as well as reminding ourselves of the necessity for all kinds of interdisciplinary action with the social sciences. We are dealing here with an interlocking cycle, attempting to interject design with social science input in a continual interplay, a Yin and Yang, in which you can never really distinguish one from the other. I will be sorry if this conference ends on a note which deemphasizes the enormous importance of creative design, which is as important in the whole process of city-building as the social-science investigations that we have been discussing for the last hour.

DEAN SERT. I would just like to say a few words. First of all, when we talk about this experimental community, we don't mean that this would be the only experiment. Very far from that. There could be many communities, based on other assumptions and other principles.

Doing a community like this one does not mean that one abandons the idea of working in and improving the ghettos---by no means. Conditions there should be immediately given the attention they deserve. Centers of experimentation should be organized in such places, and action should start by establishing social centers that don't exist now to take care of certain urgent problems, by cleaning up the places which are not efficiently used, by ending the conditions now prevailing where the slum-lords are still collecting their rents and not doing anything about their houses there, and so forth.

But because of the limitations, obstacles and restrictions to action in the cities, I think it will be tremendously useful to have a clean piece of land where experiments without all those impediments can take place.

First of all, here there are no high costs of land to cope with. Then, I think the county government together with the local government should decide that the area for experimentation would not be governed by the existing and antiquated codes which impose a lot of restrictions. So it will be a place where you would experiment with Neal Mitchell's building system, which he can't use in Detroit because it is being opposed by local codes and local restrictions.

This would be like starting with a new slate, and it would give tremendous possibilities of all manner of experiments which are totally impossible today in the midst of the city, in the dense population of the ghetto, where it would take many, many years to be transformed. This would serve as a full-size, full-scale demonstration of the possibilities. You cannot do it in the city; you have to do it somewhere outside. You have to do it with a lot of government help, and you have to do it considering the establishment that exists in the professions of architects and city planners.

If we don't take a radical departure, we will never have a place where we can show what can be done. If restrictions are not lifted, I don't think it is worthwhile making such an experi-

ment anywhere. Such an experiment takes as a basis that the government would give it an initial push.

MODERATOR. Bill Doebele and Dean Sert have anticipated what I was going to say by way of concluding remarks.

This country alone among great nations of the world has no program of new cities, has no program of experimental cities. If impoverished nations like India or advanced nations like Finland or Sweden or Great Britain could have, almost a generation ago, adopted a national policy of experimentation in this field, in their gropings for a pattern of urbanization which would meet the needs of their culture and their population and their economy, is it not indeed a sad commentary on our society, the richest and most affluent and most powerful, that we have not done so?

Before we can build the one-hundred new cities a year which we should have under construction today, we must build ten. Before we build one, we must crawl. And in that ten or twenty or whatever it may be, we desperately need experiments in diversity, experiments which will not cast up one model for the future, but many models.

Serious attention to this problem is confined at the present time to a score of private efforts ranging from something very similar to the best in the European tradition to things essentially similar to the American suburban tract of large scale. Reston, Irvine and Foster City array themselves in different postures in this scale, and they have been mentioned many times. But only here and in the experimental city projected in Minnesota---Walter Vivrett, who is the leader of that effort, has been with us---do I see a serious effort to cast out a prototype of what the city of the future might be.

I am particularly gratified that Harvard took on the high-density operation, for we have many test situations for the low-density operation. That has been the prevailing one the world over, and we know much about it. But our society can tolerate and, indeed, needs numbers of high-density situations, and we are singularly deficient in knowledge about that end of the scale.

There are other reasons for high density than those which have been advanced here. We haven't argued that there is a shortage of urban space, but there is. There is no real shortage of square miles of area in the United States, and there probably won't be for at least a century, but in the long run there will be, and we need to get on with the task of examining all alternatives.

Also, the high-density operation gives maximum accessibility from one specific place to another. We have underplayed that argument in these discussions.

We have mentioned the need for testing the results of high-density on social interaction, with its opposing portents---integration of society when applied to some groups of our population and disintegration when applied to other groups.

Finally, if there is anything that is clear about American society, it is that we are exploring a wide diversity of styles of life and that we have not adequately explored the nature of the cities in which these new styles of life can play their role. We have communities of 15,000 homes for the aged, a sociological horror to most of us a few years ago. But if you

go and look at them, they seem to have some very distinct advantages, and they are dearly loved by the inhabitants. This is a style of life which is clearly new, a function of retirement at 60 and death at 85, and who shall say that during that 25-year period our population shall not have open to it the option of the aged community?

We have youth communities---27,000 at the University of California---and who shall say that succeeding generations must live out that style in the old form? The Hippies have a capacity for making their own pads, or appropriating them, and surely this is something that will grow.

We need in short, experiments at the high-density end of the scale. Only then will we begin to get the answers to some of the questions which have puzzled us in these two days. First, who will come---by income group, by race, by occupation? Here we have much to learn. I foresee that we will have black new communities as a result of the choices of blacks who have the desire and the right to build, own, manage and inhabit their own communities, sometime, somewhere, for some of them. On the other end of the racial scale, I am sure that we will have in most instances new forms of integrated communities. But how much, and how, remains to be demonstrated. We all know that it can be done. What we do not know is whether we can make integration as attractive as it seems to be to whites and blacks of the thoughtful sets, or whether it will remain as unpopular as it seems to be in the rhetoric of a very few whites and blacks today.

We have also to test innovations in social policy and in social programs, I would hope without that intrusion upon individual freedom which was suggested by some of the language I heard here in the last two days, but rather in a more open way which permits some people to move into closely-monitored situations if they desire it, but provides others with an opportunity to move into less monitored situations, in a world where Big Brother increasingly bugs us all.

We will have to test what inputs to health and welfare and education and employment and the physical environment provide that best balance of opportunities for each population composition to learn and work and enjoy and to loaf and relax.

We will also have to explore what institutional changes are essential, not merely to build new cities but also to manage our present cities. We have all recognized that the Federal Government has a major role to play here, but in its role it must handle the problem of states' rights and must make of our states the fifty experiments that the authors of the Constitution thought they might become, instead of the one monotonous repetition that they have become. New York State has led the way, the first among our fifty states with any decisive challenge to the accumulated bureaucratic backward-oriented traditions of government which now dominate the nation. For a little, tiny slice of New York State, here and there in slum areas, it is said, "We are going to set aside local government." Doubtless we must have such experiments in all of the states before we finally resolve on the role of the state in this game. Local government, too, must flex. As the discussion has suggested, the incorporation of private enterprise in the game not only provides opportunities for decisiveness and for experimentation and for risk-taking and for profit, which we urgently need, but it also provides an opportunity for a new interface between public enterprise and private, for new delegations of authority, for new means

of selecting those who will be imaginative and experimental and responsible and not merely profit-seeking. If we are going to engage in such live experiments, it is quite clear that we must mount a new interface between public and private endeavor.

Finally, we come back to role of designers in this enterprise. Ken Galbraith said there was a role, though I'm sure for many of us it was a bit confused. We surely have the competence as designers to explore those issues in this simulated way, through these discussions and through experimental fragments and through a dialogue with the users and through a dialogue with the suppliers, so that we can say, "Yes, we can engage in this kind of experiment, even though it is with other people's money and other people's lives." But in order to assume that responsibility, we all recognize that we will have to devise processes for feed-back and for checks which will sorely try our efforts to be imaginative.

I do question whether we have the imagination to cast up the full range of experiments which a great society needs; but let us not lack for confidence in our ability as designers, working together with our colleagues in the other disciplines, to invent solutions for testing.

Dean Sert and George Pillorge, in introducing this project, described it as an effort at designing a realizable Utopia. I think it is clearly realizable, in the sense that it doesn't require mankind to have three legs. Many have questioned whether it was Utopian or subtopian, but I think there is a clear consensus that we need experiments along this dimension. American cities to date have failed to provide the physical facilities that an urban civilization imperatively requires, but, more than that, American cities have failed to provide that degree of joy, that degree of amenity and those symbols of our essential unity necessary to evoke happiness and loyalty, that evocation of the human spirit that we identify with a successful and prosperous civilization. If we are to achieve such a civilization, we surely need great, wide-ranging experiments in diversity which will be expressive both of the identity of the individual and of our essential community as Americans.

I want to close the meeting with thanks, first to the panels, panelists and the participants in the discussions this morning; second, to the audience. I think we must not forget to thank the students for having stimulated our imagination, for having worked as thoughtfully as students at Harvard always have worked to give us some perception of what may be in store in the future. And finally, I wish to thank Dean Sert for having initiated and so graciously carried on this series for our enjoyment and wisdom.

DEAN SERT. I would like to thank everybody for taking part in this project and in this conference. I want to thank the people who worked on the project---you students, the advisors in the University and outside of the University---all these names are on the program, I won't list them now. I want to thank them, of course, for that job. Otherwise, nothing would have been done.

Thank you very much.